Encyclopædia of Religion and Ethics

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LISTS OF ABBREVIATIONS

I. General

A.H. = Anno Hijrae (A.D. 622).
Ak. = Akkadian.
Alex. = Alexandrian.
Amer. = American.
Apoc. = Apocalypse, Apocalyptic.
Apocr. = Apocrypha.
Aq. = Aquila.
Arab. = Arabic.
Aram. = Aramaic.
Arm. = Armenian.
Ary. = Aryan.
As. = Asiatic.
Assyr. = Assyrian.
AT = Altes Testament.
AV = Authorized Version.
AVm = Authorized Version margin.
A.Y. = Anno Yazdagird (A.D. 639).
Bab. = Babylonian.
c. = *circa*, about.
Can. = Canaanite.
cf. = compare.
ct. = contrast.
D = Deuteronomist.
E = Elohist.
edd. = editions or editors.
Egyp. = Egyptian.
Eng. = English.
Eth. = Ethiopic.
EV, EVV = English Version, Versions.
f. = and following verse or page.
ff. = and following verses or pages.
Fr. = French.
Germ. = German.
Gr. = Greek.
H = Law of Holiness.
Heb. = Hebrew.
Hel. = Hellenistic.
Hex. = Hexateuch.
Himy. = Himyaritic.
Ir. = Irish.
Iran. = Iranian.
Isr. = Israelite.
J = Jahwist.
J″ = Jehovah.
Jerus. = Jerusalem.
Jos. = Josephus.
LXX = Septuagint.
Min. = Minæan.
MSS = Manuscripts.
MT = Massoretic Text.
n. = note.
NT = New Testament.
Onḳ. = Onḳelos.
OT = Old Testament.
P = Priestly Narrative.
Pal. = Palestine, Palestinian.
Pent. = Pentateuch.
Pers. = Persian.
Phil. = Philistine.
Phœn. = Phœnician.
Pr. Bk. = Prayer Book.
R = Redactor.
Rom. = Roman.
RV = Revised Version.
RVm = Revised Version margin.
Sab. = Sabæan.
Sam. = Samaritan.
Sem. = Semitic.
Sept. = Septuagint.
Sin. = Sinaitic.
Skr. = Sanskrit.
Symm. = Symmachus.
Syr. = Syriac.
t. (following a number) = times.
Talm. = Talmud.
Targ. = Targum.
Theod. = Theodotion.
TR = Textus Receptus, Received Text.
tr. = translated or translation.
VSS = Versions.
Vulg., Vg. = Vulgate.
WH = Westcott and Hort's text.

II. Books of the Bible

Old Testament.

Gn = Genesis.
Ex = Exodus.
Lv = Leviticus.
Nu = Numbers.
Dt = Deuteronomy.
Jos = Joshua.
Jg = Judges.
Ru = Ruth.
1 S, 2 S = 1 and 2 Samuel.
1 K, 2 K = 1 and 2 Kings.
1 Ch, 2 Ch = 1 and 2 Chronicles.
Ezr = Ezra.
Neh = Nehemiah.
Est = Esther.
Job.
Ps = Psalms.
Pr = Proverbs.
Ec = Ecclesiastes.
Ca = Canticles.
Is = Isaiah.
Jer = Jeremiah.
La = Lamentations.
Ezk = Ezekiel.
Dn = Daniel.
Hos = Hosea.
Jl = Joel.
Am = Amos.
Ob = Obadiah.
Jon = Jonah.
Mic = Micah.
Nah = Nahum.
Hab = Habakkuk.
Zeph = Zephaniah.
Hag = Haggai.
Zec = Zechariah.
Mal = Malachi.

Apocrypha.

1 Es, 2 Es = 1 and 2 Esdras.
To = Tobit.
Jth = Judith.
Ad. Est = Additions to Esther.
Wis = Wisdom.
Sir = Sirach or Ecclesiasticus.
Bar = Baruch.
Three = Song of the Three Children.
Sus = Susanna.
Bel = Bel and the Dragon.
Pr. Man = Prayer of Manasses.
1 Mac, 2 Mac = 1 and 2 Maccabees.

New Testament.

Mt = Matthew.
Mk = Mark.
Lk = Luke.
Jn = John.
Ac = Acts.
Ro = Romans.
1 Co, 2 Co = 1 and 2 Corinthians.
Gal = Galatians.
Eph = Ephesians.
Ph = Philippians.
Col = Colossians.
1 Th, 2 Th = 1 and 2 Thessalonians.
1 Ti, 2 Ti = 1 and 2 Timothy.
Tit = Titus.
Philem = Philemon.
He = Hebrews.
Ja = James.
1 P, 2 P = 1 and 2 Peter.
1 Jn, 2 Jn, 3 Jn = 1, 2, and 3 John.
Jude.
Rev = Revelation.

III. For the Literature

1. The following authors' names, when unaccompanied by the title of a book, stand for the works in the list below.

Baethgen = *Beiträge zur sem. Religionsgesch.*, 1888.
Baldwin = *Dict. of Philosophy and Psychology*, 3 vols. 1901–05.
Barth = *Nominalbildung in den sem. Sprachen*, 2 vols. 1889, 1891 (^{2}1894).
Benzinger = *Heb. Archäologie*, 1894.
Brockelmann = *Gesch. d. arab. Litteratur*, 2 vols. 1897–1902.
Bruns-Sachau = *Syr.-Röm. Rechtsbuch aus dem fünften Jahrhundert*, 1880.
Budge = *Gods of the Egyptians*, 2 vols. 1903.
Daremberg-Saglio = *Dict. des ant. grec. et rom.*, 1886–90.
De la Saussaye = *Lehrbuch der Religionsgesch.*^{3}, 1905.
Denzinger = *Enchiridion Symbolorum*^{11}, Freiburg im Br., 1911.
Deussen = *Die Philos. d. Upanishads*, 1899 [Eng. tr., 1906].
Doughty = *Arabia Deserta*, 2 vols. 1888.
Grimm = *Deutsche Mythologie*^{4}, 3 vols. 1875–78, Eng. tr. *Teutonic Mythology*, 4 vols. 1882–88.
Hamburger = *Realencyclopädie für Bibel u. Talmud*, i. 1870 (^{2}1892), ii. 1883, suppl. 1886, 1891 f., 1897.
Holder = *Altceltischer Sprachschatz*, 1891 ff.
Holtzmann-Zöpffel = *Lexicon f. Theol. u. Kirchenwesen*^{2}, 1895.
Howitt = *Native Tribes of S.E. Australia*, 1904.
Jubainville = *Cours de Litt. celtique*, i.–xii., 1883 ff.
Lagrange = *Études sur les religions sémitiques*^{2}, 1904.
Lane = *An Arabic-English Lexicon*, 1863 ff.
Lang = *Myth, Ritual, and Religion*^{2}, 2 vols. 1899.
Lepsius = *Denkmäler aus Aegypten u. Aethiopien*, 1849–60.
Lichtenberger = *Encyc. des sciences religieuses*, 1876.
Lidzbarski = *Handbuch der nordsem. Epigraphik*, 1898.
McCurdy = *History, Prophecy, and the Monuments*, 2 vols. 1894–96.
Muir = *Orig. Sanskrit Texts*, 1858–72.
Muss-Arnolt = *A Concise Dict. of the Assyrian Language*, 1894 ff.
Nowack = *Lehrbuch d. heb. Archäologie*, 2 vols. 1894.
Pauly-Wissowa = *Realencyc. der classischen Altertumswissenschaft*, 1894 ff.
Perrot-Chipiez = *Hist. de l'art dans l'antiquité*, 1881 ff.
Preller = *Römische Mythologie*, 1858.
Réville = *Religion des peuples non-civilisés*, 1883.
Riehm = *Handwörterbuch d. bibl. Altertums*^{2}, 1893–94.
Robinson = *Biblical Researches in Palestine*^{2}, 1856.
Roscher = *Lex. d. gr. u. röm. Mythologie*, 1884 ff.
Schaff-Herzog = *The New Schaff-Herzog Encyclopedia of Religious Knowledge*, 1908 ff.
Schenkel = *Bibel-Lexicon*, 5 vols. 1869–75.
Schürer = *GJV*^{3}, 3 vols. 1898–1901 [*HJP*, 5 vols. 1890 ff.].
Schwally = *Leben nach dem Tode*, 1892.
Siegfried-Stade = *Heb. Wörterbuch zum AT*, 1893.
Smend = *Lehrbuch der alttest. Religionsgesch.*^{2}, 1899.
Smith (G. A.) = *Historical Geography of the Holy Land*^{4}, 1897.
Smith (W. R.) = *Religion of the Semites*^{2}, 1894.
Spencer (H.) = *Principles of Sociology*^{3}, 1885–96.
Spencer-Gillen^{a} = *Native Tribes of Central Australia*, 1899.
Spencer-Gillen^{b} = *Northern Tribes of Central Australia*, 1904.
Swete = *The OT in Greek*, 3 vols. 1893 ff.
Tylor (E. B.) = *Primitive Culture*^{3}, 1891 [^{4}1903].
Ueberweg = *Hist. of Philosophy*, Eng. tr., 2 vols. 1872–74.
Weber = *Jüdische Theologie auf Grund des Talmud u. verwandten Schriften*^{2}, 1897.
Wiedemann = *Die Religion der alten Aegypter*, 1890 [Eng. tr., revised, *Religion of the Anc. Egyptians*, 1897].
Wilkinson = *Manners and Customs of the Ancient Egyptians*, 3 vols. 1878.
Zunz = *Die gottesdienstlichen Vorträge der Juden*^{2}, 1892.

2. Periodicals, Dictionaries, Encyclopædias, and other standard works frequently cited.

AA = Archiv für Anthropologie.
AAOJ = American Antiquarian and Oriental Journal.
ABAW = Abhandlungen d. Berliner Akad. d. Wissenschaften.
AE = Archiv für Ethnographie.
AEG = Assyr. and Eng. Glossary (Johns Hopkins University).
AGG = Abhandlungen der Göttinger Gesellschaft der Wissenschaften.
AGPh = Archiv für Geschichte der Philosophie.
AHR = American Historical Review.
AHT = Ancient Hebrew Tradition (Hommel).
AJPh = American Journal of Philology.
AJPs = American Journal of Psychology.
AJRPE = American Journal of Religious Psychology and Education.
AJSL = American Journal of Semitic Languages and Literature.
AJTh = American Journal of Theology.
AMG = Annales du Musée Guimet.
APES = American Palestine Exploration Society.
APF = Archiv für Papyrusforschung.
AR = Anthropological Review.
ARW = Archiv für Religionswissenschaft.
AS = Acta Sanctorum (Bollandus).
ASG = Abhandlungen der Sächsischen Gesellschaft der Wissenschaften.
ASoc = L'Année Sociologique.
ASWI = Archæological Survey of W. India.
AZ = Allgemeine Zeitung.
BAG = Beiträge zur alten Geschichte.
BASS = Beiträge zur Assyriologie u. sem. Sprachwissenschaft (edd. Delitzsch and Haupt).
BCH = Bulletin de Correspondance Hellénique.
BE = Bureau of Ethnology.
BG = Bombay Gazetteer.
BJ = Bellum Judaicum (Josephus).
BL = Bampton Lectures.
BLE = Bulletin de Littérature Ecclésiastique.
BOR = Bab. and Oriental Record.
BS = Bibliotheca Sacra.
BSA = Annual of the British School at Athens.
BSAA = Bulletin de la Soc. archéologique à Alexandrie.
BSAL = Bulletin de la Soc. d'Anthropologie de Lyon.
BSAP = Bulletin de la Soc. d'Anthropologie, etc., Paris.
BSG = Bulletin de la Soc. de Géographie.
BTS = Buddhist Text Society.
BW = Biblical World.
BZ = Biblische Zeitschrift.

CAIBL=Comptes rendus de l'Académie des Inscriptions et Belles-Lettres.
CBTS=Calcutta Buddhist Text Society.
CE=Catholic Encyclopædia.
CF=Childhood of Fiction (MacCulloch).
CGS=Cults of the Greek States (Farnell).
CI=Census of India.
CIA=Corpus Inscrip. Atticarum.
CIE=Corpus Inscrip. Etruscarum.
CIG=Corpus Inscrip. Græcarum.
CIL=Corpus Inscrip. Latinarum.
CIS=Corpus Inscrip. Semiticarum.
COT=Cuneiform Inscriptions and the OT [Eng. tr. of *KAT*^{2}; see below].
CR=Contemporary Review.
CeR=Celtic Review.
ClR=Classical Review.
CQR=Church Quarterly Review.
CSEL=Corpus Script. Eccles. Latinorum.
DAC=Dict. of the Apostolic Church.
DACL = Dict. d'Archéologie chrétienne et de Liturgie (Cabrol).
DB=Dict. of the Bible.
DCA=Dict. of Christian Antiquities (Smith-Cheetham).
DCB=Dict. of Christian Biography (Smith-Wace).
DCG=Dict. of Christ and the Gospels.
DI=Dict. of Islam (Hughes).
DNB=Dict. of National Biography.
DPhP=Dict. of Philosophy and Psychology.
DWAW=Denkschriften der Wiener Akad. der Wissenschaften.
EBi=Encyclopædia Biblica.
EBr=Encyclopædia Britannica.
EEFM=Egyp. Explor. Fund Memoirs.
EI=Encyclopaedia of Islām.
ERE=The present work.
Exp=Expositor.
ExpT=Expository Times.
FHG=Fragmenta Historicorum Græcorum (coll. C. Müller, Paris, 1885).
FL=Folklore.
FLJ=Folklore Journal.
FLR=Folklore Record.
GA=Gazette Archéologique.
GB=Golden Bough (Frazer).
GGA=Göttingische Gelehrte Anzeigen.
GGN=Göttingische Gelehrte Nachrichten (Nachrichten der königl. Gesellschaft der Wissenschaften zu Göttingen).
GIAP=Grundriss d. Indo-Arischen Philologie.
GIrP=Grundriss d. Iranischen Philologie.
GJV=Geschichte des jüdischen Volkes.
GVI=Geschichte des Volkes Israel.
HAI=Handbook of American Indians.
HDB=Hastings' Dict. of the Bible.
HE=Historia Ecclesiastica.
HGHL=Historical Geography of the Holy Land (G. A. Smith).
HI=History of Israel.
HJ=Hibbert Journal.
HJP=History of the Jewish People.
HL=Hibbert Lectures.
HN=Historia Naturalis (Pliny).
HWB=Handwörterbuch.
IA=Indian Antiquary.
ICC=International Critical Commentary.
ICO=International Congress of Orientalists.
ICR=Indian Census Report.
IG=Inscrip. Græcæ (publ. under auspices of Berlin Academy, 1873 ff.).
IGA=Inscrip. Græcæ Antiquissimæ.
IGI=Imperial Gazetteer of India^2 (1885); new edition (1908–09).
IJE=International Journal of Ethics.
ITL=International Theological Library.
JA=Journal Asiatique.
JAFL=Journal of American Folklore.
JAI=Journal of the Anthropological Institute.
JAOS=Journal of the American Oriental Society.
JASB=Journal of the Anthropological Society of Bombay.
JASBe=Journ. of As. Soc. of Bengal.
JBL=Journal of Biblical Literature.
JBTS=Journal of the Buddhist Text Society.
JD=Journal des Débats.
JDTh=Jahrbücher f. deutsche Theologie.
JE=Jewish Encyclopedia.
JGOS=Journal of the German Oriental Society.
JHC=Johns Hopkins University Circulars.
JHS=Journal of Hellenic Studies.
JLZ=Jenäer Litteraturzeitung.
JPh=Journal of Philology.
JPTh=Jahrbücher für protestantische Theologie.
JPTS=Journal of the Pāli Text Society.
JQR=Jewish Quarterly Review.
JRAI=Journal of the Royal Anthropological Institute.
JRAS=Journal of the Royal Asiatic Society.
JRASBo=Journal of the Royal Asiatic Society, Bombay branch.
JRASC=Journal of the Royal Asiatic Society, Ceylon branch.
JRASK=Journal of the Royal Asiatic Society, Korean branch.
JRGS=Journal of the Royal Geographical Society.
JRS=Journal of Roman Studies.
JThSt=Journal of Theological Studies.
KAT^2 = Die Keilinschriften und das AT^2 (Schrader), 1883.
KAT^3=Zimmern-Winckler's ed. of the preceding (really a totally distinct work), 1903.
KB or *KIB*=Keilinschriftliche Bibliothek (Schrader), 1889 ff.
KGF=Keilinschriften und die Geschichtsforschung, 1878.
LCBl=Literarisches Centralblatt.
LOPh=Literaturblatt für Oriental. Philologie.
LOT=Introduction to Literature of OT (Driver).
LP=Legend of Perseus (Hartland).
LSSt=Leipziger sem. Studien.
M=Mélusine.
MAIBL=Mémoires de l'Acad. des Inscriptions et Belles-Lettres.
MBAW = Monatsbericht d. Berliner Akad. d. Wissenschaften.
MGH=Monumenta Germaniæ Historica (Pertz).
MGJV=Mittheilungen der Gesellschaft für jüdische Volkskunde.
MGWJ=Monatsschrift für Geschichte und Wissenschaft des Judentums.
MI=Origin and Development of the Moral Ideas (Westermarck).
MNDPV = Mittheilungen u. Nachrichten des deutschen Palästina-Vereins.
MR=Methodist Review.
MVG=Mittheilungen der vorderasiatischen Gesellschaft.
MWJ = Magazin für die Wissenschaft des Judentums.
NBAC=Nuovo Bullettino di Archeologia Cristiana.
NC=Nineteenth Century.
NHWB=Neuhebräisches Wörterbuch.
NINQ=North Indian Notes and Queries.
NKZ=Neue kirchliche Zeitschrift.
NQ=Notes and Queries.
NR=Native Races of the Pacific States (Bancroft).
NTZG=Neutestamentliche Zeitgeschichte.
OED=Oxford English Dictionary.
OLZ=Orientalische Litteraturzeitung.
OS=Onomastica Sacra.
OTJC=Old Testament in the Jewish Church (W. R. Smith).
OTP=Oriental Translation Fund Publications.
PAOS=Proceedings of American Oriental Society.

PASB = Proceedings of the Anthropological Soc. of Bombay.
PB = Polychrome Bible (English).
PBE = Publications of the Bureau of Ethnology.
PC = Primitive Culture (Tylor).
PEFM = Palestine Exploration Fund Quarterly Memoirs.
PEFSt = Palestine Exploration Fund Statement.
PG = Patrologia Græca (Migne).
PJB = Preussische Jahrbücher.
PL = Patrologia Latina (Migne).
PNQ = Punjab Notes and Queries.
PR = Popular Religion and Folklore of N. India (Crooke).
PRE^3 = Prot. Realencyclopädie (Herzog-Hauck).
PRR = Presbyterian and Reformed Review.
PRS = Proceedings of the Royal Society.
PRSE = Proceedings Royal Soc. of Edinburgh.
PSBA = Proceedings of the Society of Biblical Archæology.
PTS = Pāli Text Society.
RA = Revue Archéologique.
RAnth = Revue d'Anthropologie.
RAS = Royal Asiatic Society.
RAssyr = Revue d'Assyriologie.
RB = Revue Biblique.
RBEW = Reports of the Bureau of Ethnology (Washington).
RC = Revue Critique.
RCel = Revue Celtique.
RCh = Revue Chrétienne.
RDM = Revue des Deux Mondes.
RE = Realencyclopädie.
REG = Revue des Études Grecques.
REg = Revue Égyptologique.
REJ = Revue des Études Juives.
REth = Revue d'Ethnographie.
RGG = Die Religion in Geschichte und Gegenwart.
RHLR = Revue d'Histoire et de Littérature religieuses.
RHR = Revue de l'Histoire des Religions.
RMM = Revue du monde musulman.
RN = Revue Numismatique.
RP = Records of the Past.
RPh = Revue Philosophique.
RQ = Römische Quartalschrift.
RS = Revue sémitique d'Épigraphie et d'Hist. ancienne.
RSA = Recueil de la Soc. archéologique.
RSI = Reports of the Smithsonian Institution.
RTAP = Recueil de Travaux rélatifs à l'Archéologie et à la Philologie.
RTP = Revue des traditions populaires.
RThPh = Revue de Théologie et de Philosophie.
RTr = Recueil de Travaux.
RVV = Religionsgeschichtliche Versuche und Vorarbeitungen.
RWB = Realwörterbuch.
SBAW = Sitzungsberichte d. Berliner Akademie d. Wissenschaften.
SBB = Sacred Books of the Buddhists.
SBE = Sacred Books of the East.
SBOT = Sacred Books of the OT (Hebrew).
SDB = Single-vol. Dict. of the Bible (Hastings).
SK = Studien und Kritiken.
SMA = Sitzungsberichte d. Münchener Akademie.
SSGW = Sitzungsberichte d. Kgl. Sächs. Gesellsch. d. Wissenschaften.
SWAW = Sitzungsberichte d. Wiener Akademie d. Wissenschaften.
TAPA = Transactions of American Philological Association.
TASJ = Transactions of the Asiatic Soc. of Japan.
TC = Tribes and Castes.
TES = Transactions of Ethnological Society.
ThLZ = Theologische Litteraturzeitung.
ThT = Theol. Tijdschrift.
TRHS = Transactions of Royal Historical Society.
TRSE = Transactions of Royal Soc. of Edinburgh.
TS = Texts and Studies.
TSBA = Transactions of the Soc. of Biblical Archæology.
TU = Texte und Untersuchungen.
WAI = Western Asiatic Inscriptions.
WZKM = Wiener Zeitschrift f. Kunde des Morgenlandes.
ZA = Zeitschrift für Assyriologie.
ZÄ = Zeitschrift für ägyp. Sprache u. Altertumswissenschaft.
ZATW = Zeitschrift für die alttest. Wissenschaft.
ZCK = Zeitschrift für christliche Kunst.
ZCP = Zeitschrift für celtische Philologie.
ZDA = Zeitschrift für deutsches Altertum.
ZDMG = Zeitschrift der deutschen morgenländischen Gesellschaft.
ZDPV = Zeitschrift des deutschen Palästina-Vereins.
ZE = Zeitschrift für Ethnologie.
ZKF = Zeitschrift für Keilschriftforschung.
ZKG = Zeitschrift für Kirchengeschichte.
ZKT = Zeitschrift für kathol. Theologie.
ZKWL = Zeitschrift für kirchl. Wissenschaft und kirchl. Leben.
ZM = Zeitschrift für die Mythologie.
ZNTW = Zeitschrift für die neutest. Wissenschaft.
ZPhP = Zeitschrift für Philosophie und Pädagogik.
ZTK = Zeitschrift für Theologie und Kirche.
ZVK = Zeitschrift für Volkskunde.
ZVRW = Zeitschrift für vergleichende Rechtswissenschaft.
ZWT = Zeitschrift für wissenschaftliche Theologie.

[A small superior number designates the particular edition of the work referred to, as *KAT*^{2}, *LOT*^{6}, etc.]

6. France.—France believes as thoroughly as America in the creed of Andrew Jackson. As in Greece, so in France, direct tampering with the electorate hardly exists. The Wilson scandals showed that political corruption was wide-spread in the Republic. The public and private bribery of the supporters of the Second Empire left many evil traces behind it. The embellishment of the capital fostered a spirit of jobbery, infecting all the departments of the State. The most dreadful of all the scandals was the Panama affair. The thrift of France had subscribed fifty millions sterling for the piercing of the Isthmus of Panama, undertaken by M. de Lesseps. In 1892 it was known that most of the money had disappeared, and at the trial it was clear that corruption accounted for the disappearance. Floquet avowed that, when Prime Minister, he had laid hands upon £12,000 of the Panama funds, and had utilized it in combating the enemies of the Government on questions unconnected with the Canal (Bodley, *France*, p. 503). He based his defence on the perilous doctrine that, under normal circumstances, it was the right and the duty of the Ministry to supervise the distribution of such subsidies so as to prevent them from being used to the prejudice of the Government (Chambre des Députés: Séance du 23 Décembre 1892). This principle has been followed by ministers both before and since the days of Floquet. The party system is probably the strongest purifying agent in Parliamentary government under extended suffrage. But, as in Rome, so in France. In neither country did the party system exist, and consequently, in both, corruption prevailed. No doubt, the general working of the Parliamentary system assists the operation of a corrupt policy. It is, however, clear that the absence of government by parties means the presence of bribery. 'The great motive power,' concludes Bodley (p. 515), 'to keep wavering members on the path of parliamentary integrity is the party system, and this is wanting in France.' Indirect tampering with the electorate can always be observed There is a bridge to be built, or a *lycée* to be instituted, especially in the *arrondissement* which shows itself faithful to the Government. Here we must meet with the kind of corruption we are certain to encounter in the future.

'Perhaps we are not at liberty to forget,' writes Sir Henry Maine in his *Popular Government* (p. 106), 'that there are two kinds of bribery. It can be carried on by promising or giving to expectant partisans places paid out of the taxes, or it may consist in the directer process of legislating away the property of one class and transferring it to another. It is this last which is likely to be the corruption of these latter days.'

Corruption used to appeal to individuals; now it appeals to classes. The farmer is bribed with an anticipation of prairie rent, and the artisan is bribed by the prospect of protective legislation. The future alone can disclose whether the old form or the new form of corruption is the more dangerous.

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R. H. MURRAY.

COSMOGONY AND COSMOLOGY.

Introductory (L. H. GRAY), p. 125.
North American (L. SPENCE), p. 126.
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Vedic.—See VEDIC RELIGION.

COSMOGONY AND COSMOLOGY (Introductory).—By cosmogony is meant the theory of the origin of the universe. The existence of a developed cosmogony seems to be characteristic of a somewhat advanced degree of thought. Among the Australians, for example, such careful observers as Spencer, Gillen, and Howitt record no cosmogonic myths, and the South American Indians and even the Finns have but scanty legends of this type. On the other hand, the Polynesians and North American Indian stocks have cosmogonies of considerable elaboration. The reason for this deficiency in certain parts of the world evidently lies in the amount of abstract thought required for the development of a cosmogony; for, though the existence of living beings, especially those of human kind, presents a creation problem which even primitive man endeavours to solve in many ways long before attempting to account for the beginning of the universe, these solutions do not come, strictly speaking, within the scope of cosmogony, but rather within that of creation (*q.v.*). Yet it must be remembered that at least the rudiments of cosmogonic ideas may exist among tribes which are not now known to entertain them. A further element of difficulty is introduced into the study of primitive cosmogonies by the unconscious absorption of foreign elements derived from Christian missionaries, just as is the case with legends of the Flood.

Throughout all cosmogony run certain basal principles, and it is also noteworthy that legends of this character, at first discordant and contradictory, gradually become harmonized and unified with the progress of religious speculation. Cosmogonic myths, almost without exception, seek to explain the creation of the world from the fewest possible elements. Among the Babylonians, where at least two divergent systems of cosmogony may be traced, the primal element of the universe was water, symbolized and ruled by Tiamât, the personification of 'chaos,' until she was slain by the god Marduk. This cosmic ocean recurs in other systems as well, notably in some of the Hindu cosmogonies and in the Egyptian legend of the Creation. Yet in various parts of the Nile Valley different cosmogonies were held; at Elephantine it was believed that Khnum had made the cosmic egg from the mud of the Nile; while at Memphis, Ptah was said to have carved the earth, like a statue, into its present form. Among the Greeks, with their highly developed philosophic and abstract thought, a large number of cosmogonies were devised, the prime component of the universe being ocean, according to Homer; earth, according to Hesiod; air, according to Epimenides; ether, according to the rhapsodic cosmogony; water and earth, according to Hieronymus and Hellanicus; water and slime, according to Athenagoras; and water, according to Thales. The Greek cosmogonies may be divided into three classes: those beginning with a spiritual principle, as Zeus; those beginning with an abstract principle, as Chaos, Time, and Night; and those beginning with a material principle, such as water, earth, and ether. Of these, the third category is doubtless the most primitive, although even the Hesiodic cosmogony is so highly developed that it is a system of philosophy rather than of religion. An almost equal degree of speculative thought appears in the earliest record of India's cosmogony. The late 129th hymn of the tenth book of the Rigveda describes the 'That,' or abstract universe, as fired with inward meditation that resulted in the creative *Kāma*, which corresponds strikingly and curiously with the cosmogonic Eros of the Greeks. Other Vedic hymns vaguely ascribe the creation of the world to various deities, while a late hymn of the Rigveda (x. 90) declares that the world was formed from the different members of the body of a giant. In the later development of Hindu thought the universe is the creation of Brahmā (or of Prajāpati or some other All-God), while the universe itself is conceived as a cosmic egg—a legend as early as the *Brāhmaṇas*, and recalling the cosmic egg of Egypt, the Polynesian creation-myths, and the Greek Orphic mysteries. It is also noteworthy that creation is ascribed to sexual congress in cosmogonies so diverse as the Hindu, Maori, and Taoist.

The Greek and Hindu cosmogonies may be termed *quasi*-philosophic, while the Babylonian creation-myth is rather one of opposition. In the Iranian legend of the origin of the universe the same element of opposition appears, and at the same time it may possibly illustrate the bond which links the two. The earliest form of the legend is marked by a conflict between Ormazd and Ahriman, and the entire cosmic process is a series of beneficent creations by the former and of maleficent counter-creations by the latter, thus affording an analogue, in a certain sense, with the conflicts of the children of Papa and Rangi in the New Zealand creation-myth. At a later period, however, philosophic speculation evolved the doctrine of 'boundless time,' from which both Ormazd and Ahriman, represented by Light and Darkness in Manichæism, were sprung. It is clear that this unitarian tendency is a later development; and if one may argue from analogy it would seem that the earliest Greek cosmogony, instead of being philosophic like the Hesiodic version, was based on opposition, as Hesiod's account itself seems in places to imply.

The order of creation naturally varies in different cosmogonic legends. In one of the numerous systems of Egyptian cosmogony the primal spirit and primal matter co-exist from all eternity in indissoluble union. The primal spirit longs to create, thus recalling the cosmic Desire (*Kāma*, Ἔρως) of the Hindu and Greek systems. This results in motion of the primal material, whose basal qualities thus become visible. With the aid of one of them the cosmic egg is formed, from which arises Rē, the god of light, who forms the world and all that it contains. In the Iranian account, as given by the *Būndahišn*, the order of earthly creation is sky, stars, moon, sun, land, sea, river, plants, animals, and man. A certain similarity with the Greek cosmogonies, as represented by Hesiod, is shown in the Germanic version given by the *Völuspá*, in that the creation of the gods, to which the Babylonian creation tablets also refer, is elaborately described. The basal elements are primeval time, Ginnungagap (which corresponds, in many respects, to the Greek Chaos), and primeval matter. The gods Odin, Hoenir, and Lódhur raise aloft the sun and moon (or the earth). After this Midhgardh, the home of mankind, is built; the plants are produced by the warmth of the southern sun; the seasons are ordained. The home of the gods is then built, and the three Norns, or Fates, appear, while the cosmogony closes with the creation of dwarfs and men. In this last system the cosmic egg, which plays so prominent a part in many creation-legends, is replaced by the cosmic tree, which is, at least to a certain extent, paralleled by the golden lotus of the Hindu *Purāṇas*.

A curiously isolated cosmogony is found in Chinese Taoism, which derives the four seasons from the conjunction of the male and female principles Yang and Yin. The four seasons, in their turn, produce the eight *kwa*, or phenomena of Nature, which are the source of the universe. Equally isolated is the general type of the North American Indian cosmogony, which is essentially one of opposition. It presupposes the prior existence of another world before the earth of man. In this world dwelt the gods, who gradually came into conflict with each other, and in the struggle all, with a few exceptions, were transformed into those objects, both animate and inanimate, to which they were in disposition most closely akin, thus giving rise to beasts, birds, reptiles, trees, rocks, and everything else. Meanwhile, the divinities who had escaped metamorphosis departed to other regions, the present world being occupied by American Indians.

In entire keeping with the late development of cosmogony and its pre-eminently philosophic character, there is almost no instance of an ethical import being attached to it. Few peoples seem to have thought of a design for which the world was brought into being. The Iranians, however, held that the universe was created for the glory of Ormazd, who should finally triumph completely over the machinations and creations of the evil Ahriman. In conclusion, it must be noted that the concept of creation *ex nihilo* was practically unknown to the ancient world. It is present neither in Babylonian, Egyptian, nor Greek; and its existence in Iranian thought is at least problematical. On the other hand, the keenest philosophers of antiquity, the Hindus, evolved the idea as early as the Rigveda, even though but vaguely, declaring in a late hymn (x. 72. 2): 'in the primal age of the gods being was born of non-being' (*devānām pūrve yuge 'sataḥ sad ajāyata*).

LITERATURE.—Franz Lukas, *Die Grundbegriffe in den Kosmogonien der alten Völker* (Leipzig, 1893); Chantepie de la Saussaye, *Lehrbuch der Religionsgesch.*³ (2 vols., Tübingen, 1905).

LOUIS H. GRAY.

COSMOGONY AND COSMOLOGY (North American).—**I. Athapascan family** (widely distributed in many tribes from Hudson's Bay to the Pacific).—The Athapascans of the North-west attribute the phenomena of creation to a raven, whose eyes were fire, whose glances were lightning, and the clapping of whose wings was thunder. On his descent to the ocean, the earth instantly rose, and remained on the surface of the water. From this being, also, the Athapascans traced their descent.[1] Yetl by name, it saved their ancestors from the flood, and succoured them by bringing them fire from heaven. It probably sprang, with the Mexican god Quetzalcoatl, from some common original form. The more eastern Athapascans believe their ancestors to have sprung from a dog, probably an eponymous totemic being.

2. Iroquoian family (Hurons, Mohawks, Oneidas, etc., situated from the St. Lawrence to the Roanoake, and the Cherokees in Eastern Tennessee).—The Iroquois tribes believe in a similar myth. Their original female ancestress fell from heaven. There was as yet no land to receive her, but presently it 'suddenly bubbled up under her feet, and waxed bigger, so that ere long a whole country was perceptible.'[2] Some Iroquois tribes, however, believed that amphibious animals, such as the otter, beaver, and musk-rat, beholding her descent, hastened to dig up sufficient earth from beneath the waters to provide her with an island upon which she might dwell.[3] Several Iroquois tribes regarded a mountain near the falls of the Oswego River in New York State as the locality in which their forefathers originated, and the name of the Oneida ('People of the stone') is held to indicate some such relationship.

3. Algonquian family (formerly distributed over an area embracing a space from Newfoundland to the Rockies, and from Churchill River on the north to Pamlico Sound on the south).—The words for 'light' and 'rabbit' in the Algonquian tongue are the same, so that Manibosho or Michabo, the sun, their creative agency, has become confounded by them with the rabbit. The myth relates that one day, when Michabo was hunting, the wolves which he used as dogs entered a great lake, and disappeared there. He entered the lake to rescue them, but it rose suddenly, overflowed its banks, covered the land, and destroyed the world. Michabo dispatched the raven to find a piece of earth wherewith to rebuild the land; but, after having searched everywhere, the bird returned, and reported that it could find none. Then he ordered the otter to dive for some, but the animal returned to the surface without any. At last he sent down the musk-rat, which returned with a small piece, which sufficed for Michabo to re-create the solid earth as it now stands. The trees having lost their branches, he shot arrows at their bare trunks, and the arrows became new limbs. He then avenged himself upon the malevolent beings who had caused the flood, and married the musk-rat, by whose aid he peopled the world.

4. Muskhogean family (Creeks, Choctaws, Chickasaws, Seminoles, etc., confined chiefly to the Gulf States east of the Mississippi).—The Muskhogees believe that before the Creation a great body of water alone was visible. Over the dreary waste two pigeons flew to and fro, and at last espied a blade of grass rising above the surface. Dry land gradually followed, and the mainland and islands took their present shapes. In the centre of the hill *Nunne Chaha* was the house of Esaugetuh Emissee, the 'Master of Breath,' who moulded the first man from the clay which surrounded his abode. The waters still covered the earth, so that he was compelled to build a great wall to dry the mud-fashioned men upon. When the soft mud had hardened into flesh and bone, he directed the waters to their present places, and gave the dry land to the men whom he had made. Here we cannot doubt that the appearance of the two pigeons signifies the brooding of the creative spirit upon the waste of waters. The similarity of this myth to the Creation story of Genesis is most remarkable.

5. Siouan family (Dakotas, Winnebagoes, Mandans, etc., dwelling on the right bank of the Mississippi and Missouri valley).—The Mandan branch of the Sioux possess a very complete creation-myth, which bears a strong resemblance to those of the Karaya Indians of the Amazon and the Warrau Indians of Guiana. They affirm that the entire nation resided in an underground village near a great subterranean lake. The roots of a grape-vine penetrated to their habitation, and some of the more adventurous of them climbed up the vine, and were rewarded with a sight of the earth, which they coveted because of its richness in fruits and the plentifulness of buffalo meat. The pioneers returned laden with grapes, the taste of which so enchanted the people that they resolved to forsake their subterranean dwelling for the delights of the upper world. Men, women, and children clambered up the vine; but, when about half the nation had ascended, a corpulent woman who was climbing up broke the vine with her weight, and by her fall filled up the gap which led to the upper world. At death, the Mandans expect to rejoin their forefathers in their original seat, the good reaching the ancient village by way of the lake, which the burden of the sins of the wicked will not allow them to cross. The cognate Minnetarees had a tradition that their original progenitor emerged from the waters of a lake, bearing in his hand an ear of maize—a typical example of the culture-hero myth. As regards the actual creation of the earth, the Mandans had a vague tradition, resembling that of the Muskhogees, concerning the brooding of pigeons upon the primeval waste of waters.

6. Californian sub-families.—California was, and is now, sparsely peopled by a number of Indian tribes belonging to as many as twenty-one distinct linguistic families. The mythologies of these tribes were, however, very similar to one another, and were characterized by unusually well-developed and consistent creation-myths, which are perhaps best typified by that of the Maidu, formerly dwelling in the Sacramento Valley and the adjacent Sierra Nevada. Their mythic era appears to fall into a number of periods, each of which is dealt with by a group of myths. It is in the first of these that their creation-myth makes its appearance, with the coming of Kodoyanpe the Creator, and Coyote. They discovered the world, and proceeded to place it in fitting order for its first inhabitants. These they made from small wooden images, but, as they engaged in violent conflict, they were metamorphosed into animals. Kodoyanpe conceived an antipathy to Coyote, whose evil desires clashed with his beneficent wishes, and resolved upon his destruction. In this he was assisted by a being known as 'the Conqueror,' who destroyed many monsters and evil beings which later would have endangered the life of men who were yet unborn. In the last scene of the cosmic drama Kodoyanpe is defeated by Coyote, and takes his flight eastwards—which shows, at least, that he is not a sun-god. The Indians then spring from the places where the small wooden figures of the 'first people' had been buried. Unlike most American creation-myths, this is a veritable creative act, not a mere re-construction of the universe. In the beginning was only the great primeval waste of waters upon which Kodoyanpe and Coyote dropped in a canoe. Of the origin of these supernatural beings the Maidu were ignorant; but a neighbouring people, the Achomawi, pushed their cosmogonic legend much further back. According to them, at first there existed only the shoreless sea and the clear sky. A small cloud appeared thereupon, which gradually increased in size, and then condensed until it became the silver-grey fox, the Creator. Then arose a fog, which, condensing, became Coyote. The Ashochimi of California told of the drowning of the world so that no man escaped. But, when the waters retired, the Coyote went forth and planted the feathers of various birds, which grew into the various tribes of men.[1]

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[1] Mackenzie, *Hist. of the Fur Trade*, 1801, p. 83; Richardson, *Arctic Expedition*, 1851, p. 239.

[2] *Soc. Hist. of New York*, c. 1650, iv. 130.

[3] *Relacion de la Nouvelle France*, 1636, p. 101.

7. Chinookan family (a distinct family, formerly dwelling on Columbia River).—The creation-myth of the Chinooks is practically the same as that of the Maidu, and relates how Italapas, the Coyote, encountering a heavy surf at a place called Got'at, was afraid that he might be drifted away, and threw sand upon the surf, saying, 'This shall be a prairie, and no surf. The future generations shall walk on that prairie.' The Chinookan mythology is rich in myths of the other world, and in cosmogonic sun-, moon-, and star-myths, which are dealt with at length in art. CHINOOKS.

8. Caddoan family (Pawnees, Kichai, Wichita, etc., dwelling in Nebraska and Arkansas).—The Caddo believed that they came originally from the under world, and related that the first individual to emerge into the light of day was an old man, carrying in one hand fire and a pipe, and in the other a drum. He was followed by his wife with corn and pumpkin-seed. They spoke of a creator, Atius Tirawa, intangible and omnipotent, whose house was the heavens, and whose messengers were the eagle and the buzzard. He it was who called sun, moon, and stars into being, and ordered them their various circuits.[2]

9. Shoshonean family (Hopi or Moqui, Comanches, etc., inhabiting a tract from Oregon to Texas, and from Nevada to Colorado).—The Shoshonean stock had originally no conception of a Great Spirit. They speak of the earth as always having existed, and of the human race as having emerged through an opening in the earth called the *Sipapu*, which was identified with the Grand Cañon of the Colorado. The dead they suppose to return to the under world. The Sky-father and Earth-mother they hold as responsible for the upkeep of the universe.

10. Pueblo Indians of New Mexico (Zuñis, etc.).—The Zuñis believe that the Creator—Awonawilona, Maker and Container of all—existed before the beginning of time, in the darkness which knew no beginning.[3] He then conceived within himself, and, projecting his creative thoughts into the void of night, evolved fogs potent with growth. He next took upon himself the form of the Sun, the father of men, who thus came into being, and by whose light and brightness the cloud-mists resolved themselves into water, gradually evolving into the primeval sea. Then from his flesh, 'outdrawn from the surface of his person,' he made the seed of two worlds, and fecundated the sea therewith. By the heat of his rays green scums formed, which became the 'Fourfold containing Mother-earth,' and the 'All-covering Father-sky.' Terrestrial life sprang from the embraces of these, and they separated. These twain were described as 'transmutable at thought, manifesting themselves in any form at will, as dancers may by mask-making' (Cushing, *op. cit.* 379 f.). Then, from the lowest of the four wombs of the world, the seed of men and living things took form and grew, until the lowest cave or womb grew over-full of living and half-finished creatures, men among them, and the press became so great that Poshaiyankya, the wisest and foremost of men, arising from the nethermost sea, obtained egress from the first world-cave through such a dark and narrow pathway that movement was difficult. Alone did Poshaiyankya come from one cave to another into this world, then island-like, lying amidst the world-waters, vast, wet, and unstable. He sought and found the Sun-father, and entreated him to deliver the men and the creatures from that nethermost world. In another variation of the legend the people were delivered by one Janauluha, a master magician, who, bearing a staff plumed and covered with feathers, guided imprisoned humanity upward to the light. He then created birds of shining plumage, the raven and the macaw, who were the spirits of winter and summer, and the totems of the two original clans of men.

LITERATURE.—In addition to the works cited in the article, see A. Bastian, *Vorgeschichtliche Schöpfungslieder*, Berlin, 1893; de Charencey, 'Le Deluge d'après les traditions indiennes de l'Amérique du Nord,' in *Revue Américaine*, vol. i.

LEWIS SPENCE.

COSMOGONY AND COSMOLOGY (Babylonian).

—The cosmology generally accepted in Babylonia had its origin at Eridu, the primitive seaport of the country, on the shores of the Persian Gulf. Here the land was constantly growing through the deposition of silt, and the belief consequently arose that the earth had originated in the same way. The water of 'the great deep,' accordingly, came to be regarded as the primordial element out of which the universe was generated. The 'Deep' was identified with the Persian Gulf, which was conceived as encircling the earth, and as such was called the *Nâru Marratu*, the 'Bitter' or 'Salt River.' On its inner bank in the extreme north was 'the Mountain of the World,' on which the sky rested and the gods had their seat. An early Babylonian map of the world (*Cuneiform Texts*, xxii. 48) places at certain distances from one another on the outer bank a number of *nagê*, or 'coastlands,' which, however, seem to owe their origin to the discovery of the existence of countries beyond the region of the Euphrates and Tigris, made subsequently to the period when the primitive system of cosmology first became an article of belief. In one of the islands off the mouths of the Euphrates and Tigris the Babylonian Paradise was located, where the Chaldean Noah and other ancient heroes were supposed to dwell.

Apśu, 'the Deep,' belonged to the orderly framework of Nature; the waters of the annual inundation which irrigated the Babylonian plain poured into it, and the trading vessels which brought wealth and culture to Eridu passed over its bosom. Hence it became the home of Ea, the culture-god of Eridu; his palace was within it, and his throne, *Du-azagga*, 'the holy mound,' was identified with an island which had been formed on the eastern side of the Gulf. But there was another aspect under which the watery element could be regarded; the thunderstorm and the whirlwind rose out of the Gulf, carrying destruction in their path, and the deep itself had once burst its bonds and destroyed mankind with a deluge. Under this destructive and anarchic aspect the watery element was known as *Tiamtu* or *Tiamât* (Heb. *Tĕhôm*), which was mythologically pictured as a dragon, the enemy of the gods of light and law. While Apśu, the Deep, had been the origin of all things in the present orderly universe, Tiamât was a yet older principle, whose anarchic waters still existed beyond the limits of the universe, in the waters above the firmament and the waters below the earth and sea, which were always ready to break forth once more as soon as the barriers of law that confined them were removed. The conception of Tiamât probably emanated from Nippur in northern Babylonia, and was harmonized with difficulty with the cosmology of Eridu (Sayce, *Religions of Ancient Egypt and Babylonia*, pp. 376, 377).

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[1] Stephen Powers, *Indian Tribes of California*, Washington, 1877, p. 200.

[2] G. B. Grinnell, in *JAFL*, 1893, p. 113.

[3] F. H. Cushing, 'Zuñi Creation Myths,' in *13 RBEW*, 1896.

The cosmological beliefs of Eridu are embodied in a bilingual (Sumerian and Babylonian) poem, discovered by Pinches (*JRAS*, 1891, pp. 393–408), which, however, in its present form has been much modernized by the introduction of lines referring to Babylon and the other chief cities of later Babylonia, and the substitution of Merodach, the god of Babylon, for Ea, the god of Eridu. The original version began as follows:

> 'No holy house, no house of the gods in a holy place had as yet been built,
> No reed had grown, no tree been planted,
> No bricks been made, no brick-mould formed,
> No house been built, no city founded,
> No city built, no man (*adam*) made to stand upright;
> The deep was uncreated, Eridu unbuilt,
> The seat of its holy house, the house of the gods, unerected:
> All the earth was sea,
> While within the sea was a current' (literally 'watercourse,' *pišannu*).

Then we are told how

> '[Ea] tied (reeds) together to form a weir in the water,
> He made dust and mixed it with the reeds of the weir,
> That the gods might dwell in the seat of their well-being;
> The cattle of the field (*Edinnu*), the living creatures in the field, he created;
> The Tigris and Euphrates he made and set them in their place,
> Giving them good names.
> Moss and seed-plant of the marsh, rush and reed he created,
> He created the green herb of the field,
> The earth, the marsh, the jungle,
> The cow and its young, the calf, the sheep and its young, the lamb of the fold.'

Of far later date is the so-called Epic of Creation, which is really a hymn in honour of Merodach and his overthrow of Tiamât and the powers of chaos. As this involved the creation of the existing world, the poem is prefaced by an account of the origin of the universe as it was conceived in the schools. The cosmology is frankly materialistic, abstract principles taking the place of the gods who are themselves the offspring of the principles, in flagrant contradiction of the rest of the Epic, in which the god Merodach appears as the creator. The Semitic idea of generation is invoked in order to explain the creation, which thus becomes a process of evolution, the old animistic objects of Sumerian worship being introduced to form the links in the chain of development. Water remains the primordial element, but an attempt is made to reconcile the antagonism between the two conceptions of this element, according as it is regarded as anarchic or as under the dominion of law, by making Apśu (the Deep) and Tiamât (the watery chaos) complementary principles whose union resulted in starting the evolutionary process. The first lines of the Epic run thus:

> 'When above unnamed was the heaven,
> (And) earth below by a name was uncalled,
> Apśu (the deep) in the beginning (*ristû*) being their begetter,
> (And) the flood (Mummu) of Tiamât the mother of them all,
> Their waters were embosomed together (in one place),
> But no reed had been harvested, no marsh-plant seen;
> At that time the gods had not appeared, any one (of them)
> By no name were they called, no destiny [was fixed].
> Then were the gods created in the midst of [heaven?],
> Lakhmu and Lakhamu appeared [the first].
> The ages multiplied, they . . .
> Ansar and Kisar (the Upper and Lower Firmaments) were created . . .
> Long were the days, forth came . . .
> Anu the [Bel and Ea].'

The cosmogony of the Epic is reproduced by Damascius, a contemporary of Justinian (*de Prim. Princip.* 125 [p. 384, ed. Kopp, 1826]).

> 'The Babylonians,' he says, 'like the rest of the barbarians, pass over in silence the one principle of the universe and constitute two, Tavthê (Tiamât) and Apasôn (Apśu), making Apasôn the husband of Tavthê, and denominating her "the mother of the gods." And from these proceeds an only-begotten son Môymis, which, I conceive, is no other than the intelligible world (*νοητὸς κόσμος*) proceeding from the two principles. From them also another progeny is derived, Lakhê and Lakhos (corrupted in the MSS into Dakhê, Dakhos); and again a third, Kissarê and Assôros; from which last three others proceed, Anos and Illillos (corrupted into Illinos) and Aos. And of Aos and Davkê (Damkina) is born a son called Bêlos (Bel-Merodach), who, they say, is the fabricator of the world.'

Here Mummu, 'the flood' or chaos, who is identified with Tiamât in the cuneiform text, becomes the son of Tiamât and Apśu, and is accordingly explained by Damascius as the ideal world—that is to say, the world as it exists in the mind before it is realized externally. Such an explanation, however, is excluded by the Epic, where Mummu would rather correspond with the 'darkness' which in Gn 1^2 is said to have been 'upon the face of the deep.'

According to the Babylonian legend, the appearance of the gods of light and order was followed by the revolt of Tiamât (or, as it would seem, according to another version, of Apśu). But the powers of darkness and chaos were overthrown by Bel-Merodach, who cut Tiamât in two, and stretched the sky across one of the two halves, thus preventing the waters which were in her veins from breaking forth again, while the other half was similarly confined under the earth and sea, the springs of which it feeds. The conquest of Tiamât was followed by the creation of man, who was brought into existence in order to build temples and altars and offer sacrifices and prayers to the gods. The world, however, had to be prepared for the reception of man by fixing the movements of the celestial luminaries, and so regulating the sacred calendar, and then by creating plants and animals which could be offered or used in the service of the temple. The heavenly bodies had existed before the war with Tiamât, since the deities with whom they were identified had been the offspring of the trinity or triad of Anu, En-lil, and Ea. Indeed, Bel-Merodach himself was originally a Sun-god.

In the Epic, allusion is made to another system of cosmology, which ascribed the universe to the creative word. Merodach is described as destroying and creating by his word alone, and so proving his fitness to destroy the forces of anarchy and create a world that should be governed by law.

Another system of cosmology was that which emanated from Nippur (now Niffer) in northern Babylonia. In this Tiamât, the dragon of the subterranean waters of chaos, was the elementary principle, the earth having risen out of it in the form of a mountain. The brood of chaos, composite creatures who belonged to a first and imperfect creation, continued to exist in the dark underground, which was also the dwelling-place of the ghosts and demons of night. How the world-mountain was believed to have been formed we do not yet know. At the Syrian Hierapolis (Membij) the waters of the deluge of the Babylonian Sisythes were believed to have drained off into a cavern beneath the temple, which was accordingly kept securely closed, and Simi, the daughter of the supreme god Hadad, was said to have put an end to the attacks of a demon by filling the pit in which the monster lived, with the water of the sea (Cureton and Renan, in Pitra, *Spicilegium Solesmense*, ii. p. xliv).

LITERATURE.—H. Gunkel, *Schöpfung und Chaos* (1895); A. H. Sayce, *Lectures on the Origin and Growth of Religion as illustrated by the Religion of the Ancient Babylonians* (1877), ch. vi., and *Religions of Ancient Egypt and Babylonia* (1902), pt. II. ch. vi.; L. W. King, *The Seven Tablets of Creation* (1902); M. Jastrow, *Die Religion Babyloniens und Assyriens*, Giessen, 1909

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COSMOGONY AND COSMOLOGY (Buddhist).—I. Preliminary notes.—

(1) In the earliest times, speculations on the universe were apparently regarded as wrong. We may recall the attitude of the Buddha towards (heretical) doctrines of the infinity or non-infinity of the world (see AGNOSTICISM [Buddhist], vol. i. p. 221), and his efforts to give a moral or psychological meaning to

the researches of natural science: when a monk wants to know where the material elements (earth, water, etc.) stop in their extent, the Buddha explains, by way of answer, how people are delivered from desire and from existence. Obviously that is where the problem lies; the exterior world, in fact, exists only as long as one is conscious of it (*Dīgha*, i. 215).[1]

It is probable that a large number of Buddhists, imbued with the 'moralism' of their master, avoided frivolous curiosities,—'non-Buddhist' 'mundane' disciplines (*lokāyata*),[2]—and were content with denying, on the one hand, a supreme personal creating power (a lord, *Īśvara*), against the theists, the Brāhmans; and, on the other, the innate independent power of things (*svabhāva*), against the *svabhāvavādins*, the materialists. The formula, 'The diversity of the world comes from the act,'[3] contains for a well-informed Buddhist the Alpha and Omega of the necessary cosmological information.

But, long before the time when the Mahāyānist books demanded that the learned Buddhist, the preaching Bodhisattva, must have a knowledge of lay sciences,[4] a Buddhist cosmology was formed, constituting a very well developed collection of various opinions and systematizations; and, in fact, accurate information on cosmological questions seems to have been as ancient as the statements defending or ridiculing the speculations of this kind which we recalled above.

The aim of the present article is to give an outline of Buddhist cosmology, without entering into details (except on a few points which have not yet been published, or are obscure), and without spending time over variants. It should prove interesting, and profitable for the history of the sects, to study the history of the various theories, to distinguish the most ancient elements and aspects of them, and to note the succession of borrowings, inventions, and arrangements. Such a study, however, is possible for only a limited number of the theories; we shall endeavour to pursue it wherever we can with prudence.

(2) *Meaning of the word.*—'Cosmology' seems to be the most accurate translation of *lokaprajñapti*, 'world-teaching,' a term denoting that part of the Sarvāstivādin *Abhidharma* ('summaries and systematization of matters of doctrine' [see Abhidhamma, vol. i. p. 19]) which deals with cosmological problems—the origin, arrangement, and destruction of the universe.[5]

But the *lokaprajñapti* deals also with questions that we do not include as cosmological: the Buddhists, in fact (at least the Sarvāstivādins), distinguish two 'worlds' (*loka*)—the *bhājanaloka*, 'receptacle-world,'[6] the universe as the abode of beings (*sattva*), and the *sattvaloka*, 'world of beings,' *i.e.* the mass of living beings. There are, accordingly, two *lokaprajñapti*, the first a 'cosmology,' the second a 'zoology' (*sattva*=ζῷον).[7]

There are, naturally, close connexions between these two 'worlds,' for the first is made for the second, being created and arranged to form a shelter for it. The whole of demonology, anthropology, and theology (*i.e.* pantheology) is connected with cosmology. Although it is difficult to separate the two, we shall give special prominence to the facts considered by our sources as relating to the 'receptacle-world' (*bhājanaloka*); *e.g.*, the abodes of the gods, the length of their lives, the dimensions of their bodies, and their 'non-embryogeny' are 'cosmological,' while their psychology and the right they possess or do not possess to the exercise of virtue are 'zoological' (*sattvalaukika*). The beings, likewise, in one and the same class, inhabiting the same part of the 'receptacle-world,' may differ in their method of generation; men, serpent-dragons, and *garuḍas* (mythic birds) are not always born from the womb or the egg; the *chakravartin* kings (see art. Chakravartin, vol. iii. p. 336 f.) resemble gods far more than men, etc.—none of this is cosmological.

Nevertheless, in order to understand the cosmological system, we must know the main lines of the distribution of beings (*sattvaloka*). There are (1) 'immaterial' beings, who form the 'immaterial' category (*dhātu*), the *ārūpya*; they are nowhere; they have no place in the 'receptacle-world' (but see below, § 8); (2) beings called 'material' (*rūpin*),[1] but of a subtle material; they inhabit the higher part of the 'receptacle-world,' *i.e.* the *rūpadhātu*, or 'material category or region,' according as we regard the beings or their habitation (see § 7); and (3) material beings, of grosser substance the lower they are in the scale, living in a world of gross material, concupiscent (*kāmāvachara*, *kāmabhuj*, *kāmaprabhāvita*), and subject to sensual and especially sexual desire (men alone are capable of continence, *saṁvara*, in this respect); these beings occupy the lower part of the 'receptacle-world,' the *kāmadhātu*, or 'concupiscence category or region.'[2]

On the other hand, beings are divided into five categories, two good and three bad, called *gati*, 'destinies,' 'kinds of existence,' themselves further subdivided into numerous sub-*gatis*: (1) the gods (*devas*) of three classes, according as they constitute the first *dhātu* (four kinds), or inhabit the second *dhātu* (sixteen kinds and sixteen 'places,' *āvāsa*), or inhabit the third *dhātu*, the *kāmadhātu* (six kinds and six 'places') (see below, § 6); (2) men, who are allotted four places, the four continents (see below, § 4); (3) ghosts (*pretas*), one place [see below, § 5 (iii.)]; (4) animals, one place [see below, § 5 (ii.)]; and (5) the damned, eight places: eight hells [see below, § 5 (i.)]. According to this division, there would be twenty places in the *kāmadhātu*. Indeed, it is not at all a satisfactory division,[3] for there are numerous categories of beings who have no place in it, notably the *asuras*.

Many treatises, some of them of ancient date, regard the *asuras* as a sixth *gati*, placing them between men and ghosts (see *JPTS*, 1889, p. 105 [this is the opinion of the *Andhakas* and several *Uttarāpathakas*]; Burnouf, *Lotus*, 1852, p. 309 [*SBE* xxi. 7]; Pitāputrasamāgama, ad *Bodhicharyāvatāra*, ix. 73; *JPTS*, 1884, p. 158, etc.). But the authorities on *Abhidharma*[4] (*Kathāvatthu*, viii. 1; the Sarvāstivādin *Saṁgītiparyāya* [in *JPTS*, 1905, p. 102]; Chandrakīrti's *Pañchaskandhaprakaraṇa*)[5] hold that the *asuras* are not a *gati*. Some of them have the same colour, pleasures, and length of life as the gods or the ghosts, and intermarry with them.[6] Nevertheless, the *asuras* have a well-defined place or places (see below, § 5 (iv.)).

As regards the numerous demi-gods, good and bad genii, vampires (*rākṣasas*), dragons (*nāgas*), divine birds (*garuḍas*), and celestial musicians (*gandharvas*, cf. *Mahāvyutpatti*, § 166), some of them have a definite place in hell (demons of torture), at the foot of Meru, or near the deities whose followers or commensals they are (see below, § 5 *ad fin.*); others have the position rather of magician-ghosts. Popular mythology had shrewd theories concerning them, but they do not appear to have much importance in 'cosmology' (*lokaprajñapti*).

(3) *Sources.*—The most systematic work on Buddhist cosmology is undoubtedly the second

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[1] Rhys Davids, *Dialogues of the Buddha*, London, 1899, i. 280; cf. the 'foolish questions' in *Milinda*, p. 295 (*SBE* xxxvi. 153).

[2] Rhys Davids, *op. cit.* i. 166, and Bendall's review in *Athenæum*, June 30th, 1900; also *Śikṣāsamuchchaya*, p. 192, 7.

[3] *Karmajaṁ lokavaichitryam* (*Abhidharmakośa*, iv. st. 1). On *karma* as the cause of the universe, see art. Karma.

[4] e.g. *Bodhisattvabhūmi*, ch. viii.

[5] This last part, the destruction of the universe, has been treated in the art. Ages of the World (Buddhist), vol. i. p. 189. The *Abhidharma* of the Pāli language does not seem to include any *lokapaññatti*.

[6] This expression does not appear to exist in Pāli, where we find *saṅkhāraloka*, 'material world' (including trees, etc.) (see Childers, *Dict. of the Pali Language*, London, 1875, p. 453), and *okāsaloka* (=*avakāśaloka*), 'room-world.' Spence Hardy (see Childers, p. 299) translates 'the world of space,' 'the far-extended vacuum' (see *Visuddhimagga*, vii. [*JPTS*, 1891–3, p. 99]).

[7] The *pudgala paññatti*, which constitutes one of the sections of the Pāli *Abhidharma* (*JPTS*, 1883), is the enumeration and definition of the various categories of 'individuals,' 'noble individuals' (*āryapudgalas*), etc., from the moral standpoint, particularly from the point of view of their progress in the 'way' of *nirvāṇa* (*JPTS*, 1905, p. 133).

[1] *Rūpa* is usually translated 'form,' *arūpa*, 'formless,' and *ārūpya*, 'formlessness.' But, although 'matter' is far from being to us what *rūpa* is to the Buddhists, the present writer prefers the translation 'matter' (see C. A. F. Rhys Davids, *Buddhist Psychology*, London, 1900, p. xliii; *JPTS*, 1884, p. 27 f.; *Mahāvyutpatti*, § 101, etc.).

[2] Generally translated 'desire-sphere,' but 'desire' is inaccurate. There is desire, attachment (*rāga*), in the 'region of matter,' but only 'attachment to life' (*bhavarāga*); in the 'region of concupiscence' there is also 'attachment to sensual pleasures' (*kāmarāga*), 'concupiscence.'

[3] Cf. al-Bīrūnī on 'the different classes of created beings and their names,' *India*, tr. Sachau (1910), ch. viii.

[4] Buddhaghoṣa refers to *Majjhima*, i. 73; see *Dīgha*, xxxiii.; *Avadānaśataka*, xli.; *Madhyamakavṛtti*, p. 269, 9 and note.

[5] Tanjur, *Mdo*, xxiv.

[6] See *Kathāvatthu*, *loc. cit.*; cf. *JPTS*, 1884, p. 158.

treatise of the *Abhidharma* (*Abhidharmaśāstra*) of the Sarvāstivādin school, entitled *Prajñaptiśāstra*, the first section of which is the *Lokaprajñapti* (Tanjur, *Mdo*, lxii. ; see Takakusu, *JPTS*, 1905, pp. 77, 117, 142).[1] On this section is based the *Abhidharmakośa* of Vasubandhu[2] (ch. iii. st. 1–44 *sattvaloka*, 45–102 *bhājanaloka*), known particularly for the commentary of Yaśomitra, *Abhidharmakośavyākhyā*.[3]

A Tibetan work of the end of the 18th cent., *Dpag-bsam-ljon-bzaṅ* (=*Kalpadruma*), ed. by Sarad Chandra, Calcutta, 1908, refers to the same *Abhidharmakośa*, which is quoted by Georgi, *Alphabetum Tibetanum* (Rome, 1762), p. 470, and used, along with other Sarvāstivādin sources and the Chinese literature of the two vehicles, by S. Beal, *Catena of Buddhist Scriptures* (London, 1871), p. 15 f., the most complete work that we have on the subject as yet.

The ancient sources (Pāli and Skr. 'Little Vehicle'), which are the most interesting of all, are somewhat scanty and scattered; they will be mentioned *ad locum*.

The Pāli commentaries have had little attention from this point of view. Probably most of the information they contain has passed into the works of Spence Hardy, *Manual of Budhism* (London, 1860), and *Legends and Theories of the Buddhists* (London, 1866).[4]

2. Foundation of the universe: the 'great elements.'—(*a*) An important cosmogonical feature can be traced in the earliest Buddhist texts, and is evidently pre-Buddhistic. When Ānanda inquires as to the causes of earthquakes, Buddha answers as follows: 'This great earth, Ānanda, is established on water, the water on wind, and the wind rests upon space. And at such a time, Ānanda, as the mighty winds blow, the waters are shaken by the mighty winds as they blow, and by the moving water the earth is shaken.'[5] Another *sūtra* relates the questions of the Brāhman Kāśyapa: 'On what rests the earth?'—'On the circle of water.' 'And the circle of water?'—'On the wind.' 'And the wind?'—'On the ether.' 'And the ether?'—'You go too far, O Brāhman. The ether does not rest on anything; it has no support'[6] (see below, § 9).

(*b*) The Buddhists admit four 'great elements' (*mahābhūta*),[1] called great because they are the substance of all material things; they are earth, water, fire, and wind, or, as Mrs. Rhys Davids expresses it, earth-element, fluid-element, flame-element, and air-element (for their specific qualities reference may be made to *Dhammasaṅgaṇi*, § 962 [=C. A. F. Rhys Davids, *Bud. Psych.* p. 241], and to *Visuddhimagga*, xi. [tr. by Warren, *op. cit.* p. 157], where their functions in the human body are especially treated. Cf. also *Majjhima*, i. 185 and iii. 240 [quoted in *A.K.V.*, Burn. 42a], and *Sikṣāsamuchchaya*, p. 244, a re-cast of *Majjhima*, iii. 240). The 'great elements' constitute the *bhūtarūpa*, 'element-matter,' whence is derived 'elementary matter,' 'dependent matter' (*bhautikaṁ rūpam*, *upādāya rūpam*), *e.g.* the sense-organs, in so far as they are distinct from 'the eye of flesh,' etc. This kind of matter is subtle and refined, in contradistinction to the elements that are solid and gross (*sūkṣma*, *praṇīta*; *audārika*, *hīna*).

The common Indian belief that there is a fifth great element, viz. ether (or space, *ākāśa*),[2] is accepted by the Vaibhāṣikas, who quote the *sūtra* mentioned above [2 (*a*)]; and it would not be difficult to find documentary or logical arguments in their favour. [*Ākāśa* is reckoned a *dhātu* (a term that often denotes 'element': *pṛthividhātu*, 'earthy-element,' etc.), and the *Abhidharma* ranks it in the category of *rūpa* (matter).] But for the Sautrāntikas and Mādhyamikas *ākāśa* is simply 'space' (not 'ether'), 'void' (*vyoman*=sky), not a thing (*artha*), but simply the absence of anything tangible, that which gives place to things, whence its name (*avakāśaṁ dadātīty ākāśam*).[3] This is only a name, as the past, *nirvāṇa*, and the person (*pudgala*) are only names (says a *sūtra*). But the Buddhists do not deny a 'far extended vacuum,' eternal, infinite, not made (*asaṁskṛta*), the great nonentity to which, according to the materialists (*Dīgha*, i. 35; *Saṁyutta*, iii. 207), the senses and intelligence return at death.

3. The small universe: general notions.—

We shall see below (§ 9) that the Buddhists imagined great 'cosmoi,' or 'chiliocosmoi,' but we shall first consider the 'small universe,' the creative unit of these great combinations, which extend to the farthest limits of space.

The starting-point of the 'small cosmology' is the old Indian and Brāhmanic geographical notion: in the centre of the world is a great mountain (Meru, Sumeru = Himālaya), where the gods dwell, and round which the sun moves. To the south lies India (*Jambudvīpa*); to the other sides, the other continents. The following is the Buddhist description, in its most systematic form (*Abhidharmakośa* and commentary). When the time has come for a new creation, after chaos, when everything is burnt up or 'volatilized' (see art. Ages of the World [Buddhist]), the heaven of Brahmā appears first of all (and the gods who had been re-born in higher heavens come to be re-born here); then the heavens of the gods *Paranirmitavaśavartins*, *Nirmāṇaratis*, *Tuṣitas*, and *Yāmas* (see § 6); next, much lower, come (1) the wind-circle (*vāyumaṇḍala*), infinite in surface, resting on space, and 1,600,000 *yojanas* (or leagues) in thickness.[4] On this wind-circle, the cloud of the creation pours a sea of 1,120,000 leagues of golden water in a circle of 1,203,450 leagues' diameter. This sea, set in motion by the wind, gives (2) the water-circle (*āpmaṇḍala*), of 800,000 leagues' thickness, and (3) the golden earth (*kāñchanamayī bhūmi*), which rises to the top like cream on milk, 320,000 leagues in thickness. The cloud then pours on this golden earth gold, precious stones, earth, water, iron, etc., which form (*a*) in the centre of the system, Mount Meru; (*b*) eight mountains, or concentric chains of mountains, seven of which (of gold) are quite near Meru and near each other, while the eighth (of iron) is almost at the very edge of the system; (*c*) oceans flowing between the concentric mountain-chains; and (*d*) islands, notably four great islands or continents situated in the largest of the oceans—the 'exterior' ocean, between the 7th and 8th mountains.[1]

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[1] By the kindness of Dr. Cordier, the present writer has been enabled to use extracts from this work, for the *dvīpas* in particular (see below, § 4). Prof. Takakusu seems to be mistaken when he says the section does not exist in Chinese (see p. 118 of his art.).

[2] On this work see the article in vol. i. p. 20; Burnouf, *Introduction à l'hist. du bouddhisme indien*, Paris, 1844, pp. 563–574 ff.; and the article of Takakusu. The present writer is indebted to Mr. F. W. Thomas for a copy of ch. iii. (Tibetan tr.).

[3] This source will be quoted as *A.K.V.*, and the folio in the MS of the 'Société asiatique' will be given; sometimes reference will be made to the MS of Burnouf (Burn.) in the 'Bibliothèque nationale.'

[4] The European works most frequently referred to in this art. are: Warren, *Buddhism in Translations* (Cambridge, Mass., 1896); Burnouf, *Lotus de la bonne loi* (Paris, 1852), and *Introduction à l'hist. du bouddhisme indien* (Paris, 1844); Rémusat, *Mélanges posthumes* (Paris, 1848); Georgi, *Alphabetum Tibetanum* (Rome, 1762); Köppen, *Religion des Buddha* (Berlin, 1857–59); Waddell, *Buddhism of Tibet* (London, 1895); C. A. F. Rhys Davids, *Buddhist Psychology* (London, 1900). See also literature at art. Ages of the World (Buddhist).

[5] See *Dīgha*, ii. 107 (*SBE* xi. 45), and cf. *Divyāvadāna*, p. 204; also *Aṅguttara*, iv. 312; *Milinda*, p. 68 (*SBE* xxxv. 106); Beal, *Catena*, p. 47. The authorities of Rémusat, *Mélanges posthumes*, p. 79 f., sometimes add a circle of fire between water and wind, and a circle of diamond (where the relics of the Buddhas are enclosed) between wind and ether.

[6] Quoted in *A.K.V.*, and translated by Burnouf, *Introd.* p. 448 (see *SBE* xxxv. 106); cf. *Madhyamakavṛtti*, p. 166, n. 5; Śaṅkara, ad *Brahmasūtras*, II. ii. 4; Rāmānuja, ad II. iii. 1. For the Vedic origins of this notion, spoken of by Burnouf, cf. *Bṛhadāraṇyakop.* iii. 6; *Aitareyabrāhmaṇa*, xi. 6. 4: 'The sky rests on the air, the air on the earth, the earth on the waters, the waters on the reality (truth, *satya*), the reality on the *brahman*, the *brahman* on the *tapas* (creative fervour)'; *Chhāndogya*, i. 9. 1: 'It is the space whence all these creatures proceed and into which they again descend' (see Oltramare, *Théosophie brahmanique*, Paris, 1906, i. 292; Deussen-Geden, *Phil. of the Upanishads*, Edin. 1906, p. 214 ff.).

[1] C. A. F. Rhys Davids (*op. cit.* pp. 166, 197, 205) translates *mahābhūta* 'the things-that-have become, die grossen Gewordenen, τὰ γιγνόμενα, a far more scientific term than elements or στοιχεῖα'; but possibly the expression *mahābhūta* is pre-Buddhist, and is used in a sense that is not specifically Buddhist. What is not matter (*rūpa*)—thought, etc.—although 'becoming' *par excellence*, is not *bhūta*.

[2] There is a good summary on *ākāśa*, 'space' or 'ether,' in Vasudev Anant Sukhtankar, *Vedānta according to Rāmānuja* (Vienna, 1908), p. 52. See also Burnouf, *Lotus*, p. 515; *Śloka-vārttika*, pp. 380, 770 (Chowkhambā Skr. Ser.), tr. pp. 196, 435 (*Bibl. Indica*, 1907); Sarad Chandra, *Tib. Dict.* (Calcutta, 1902), p. 425; *Śikṣāsamuchchaya*, pp. 249, 323; *Madhyamakavṛtti*, pp. 129, 271, 389, 413, 505, 528; *Aṅguttara*, i. 176; *Majjhima*, iii. 241; *Kathāvatthu*, vi. 6. 7; and C. A. F. Rhys Davids, *op. cit.* p. 193 (cf. *Visuddhimagga*, *JPTS*, 1891, p. 124, and *JPTS*, 1884, pp. 27, 29).

[3] '*Ākāśa* is great, since it gives place to the production (*bhava*?) of all *rūpa*, but it is not a *bhūta*' (Chandrakīrti, *Pañchaskandhaprakaraṇa*, p. 275a).

[4] Certain sources give the names of the whirlwinds of this wind-circle; see Beal, *Catena*, p. 101; cf. below, p. 137. According to *Abhidharmakośa*, iii. 87, the *yojana*=8 *krośa* (=the length the voice can carry) =4000 'arcs' (*daṇḍa*?) =16,000 hands (*hasta*, i.e. 'cubits') =16,000 × 24 fingers (*aṅguli*).

The outside mountain is called Chakravāla, and this name is also applied to the entire 'small universe,' *lokadhātu*, or *chāturdvīpakalokadhātu*, 'four-continents-universe.'

Chakravāla (°*vāṭa*, °*vāḍa*, the *Sakwala* of Sp. Hardy) = 'circle,' 'bracelet,' 'horizon' (see É. Senart, *Essai sur la légende du Buddha*², Paris, 1882, p. 6 ff.). In the northern sources there are a *chakravāla*-mountain and a great-*chakravāla*-mountain, called 'black mountains' or 'time-mountains' (*kālaparvata*; see Maheśvara, ad *Amarakośa*, 2, 2, 2; *Dharmasaṅgraha*, § 124; *Lalitavistara* [Halle, 1902], p. 132; *Lotus*, in *SBE* xxi. 233; *Sikṣāsamuchchaya*, p. 246). Perhaps the 'great *chakravāla*' envelops a group of small universes (see below, § 9). Between three universes, which form three tangent circles, there is a dark region, 'intramundane darkness' (*lokāntarika*), a special hell—a cosmic abyss, which recalls the *anārambhanaṁ tamas*, 'unsupported darkness,' of *Rigveda*, i. 182. 6, vii. 104. 3 (see *Dīgha*, com. on ii. 12; Sp. Hardy, *Legends*, p. 110; Burnouf, *Lotus*, p. 832; and Beal, *Catena*, p. 64).

The iron-mountain-range, Chakravāla, like the continents, rests on the golden earth. It is 312½ leagues high and 312½ broad, and 312½ leagues above the level of the exterior ocean which it surrounds. This ocean is 322,000 leagues in extent,[2] and is bounded on the inner side by the *Nemiṁdhara* range ('felly-bearing'), 625 leagues in height and breadth, and 312½ leagues in projection (above the ocean's level). Then there is an ocean of 1250 leagues;[3] then *Vinataka*, 'inclined,' 1250 in height and breadth, 625 in projection; an ocean of 2500 leagues; *Aśvakarṇa*, 'horse-ear,' 2500; an ocean of 5000; *Sudarśana*, 'beautiful,' 5000; an ocean of 10,000; *Khadīraka*, 'acacia (?),' 10,000; an ocean, 20,000; *Iṣādhara*, 'plough-pole-bearing,' 20,000; an ocean, 40,000; *Yugaṁdhara*, 'yoke-bearing,' 40,000; an ocean, 80,000; Mount Meru, 160,000 leagues high, 80,000 leagues above the level of the ocean, 80,000 leagues broad, and 320,000 leagues in perimeter. The distance, therefore, from the axis of Meru to the Chakravāla-mountain is 600,437·5 leagues; the diameter of the whole is 1,200,875 (*Abhidharmakośa*).

As regards the order of the mountains, we have followed *A.K.V.*, *Divyāvadāna* (p. 217), Beal, Eitel (*Handbook of Chinese Buddhism*, London, 1888); there are curious variations in *Mahāvyutpatti*, § 194; *Dharmasaṅgraha*, § 125; *Mahāvastu*, ii. 300; *Sikṣās.* p. 246; *Visuddhimagga*, and *Nemijātaka* (*Jātaka*, vi. 125). Cf. a curious discussion in Burnouf, *Lotus*, p. 844, on the commentators on some of these divergencies; cf. also Sp. Hardy, *Legends*, p. 82. The names of the mountains are sometimes doubtful, e.g. *Īṣadhara*, *Isādhara*, *Iṣādhāra*, *Iṣādhara*, *Iṣāndhara*. The dimensions of the mountains and oceans also differ. The Pāli documents have, as the starting-point of their calculations, a Meru of 168,000 leagues high, with base 84 × 84, and 80,000 above sea-level (ancient source, *Aṅguttara*, iv. 100); from this, if we adopt a scheme that appears as classical in all sources, we get 42,000 for the first ocean, and the same for the first circular chain of mountains, then 21,000. . . . This would give a greater total diameter than that which we got according to the *Abhidharmakośa*. Now, the Pāli *Jinālaṁkāra* has for the diameter of Chakravāla 1,119,440 (Sp. Hardy, *Legends*, p. 85, seems inaccurate), and the *Visuddhimagga* has 1,203,450, *i.e.* the number attributed by the *Kośa* to the water-circle, which, according to *A.K.V.*, exceeds Chakravāla by 2575.

The seven concentric mountain-ranges have the generic name of *Kulāchala*, 'principal, noble mountains.' They are composed of gold, being excrescences of the golden earth. They are 'like walls,' their height and thickness being equal. One may ask, however, whether they are perpendicular, or, like our mountains, inclined. The answer is that they are really a little broader at the base (*A.K.V.*). It is not clear whether they are circular or form squares. They are often represented square. I-tsing believes the earth to be square, like Buddhist convents. It is quite certain that, in the Sanskrit *Abhidharma*, Meru is a parallelepiped.[1]

4. *Dvīpas*, 'islands' or 'continents,' (abodes of mankind).[2]—In the 'exterior' ocean, facing the eastern, southern, etc., sides of Mount Meru, and lit up in succession at distances of 6 hours after each other by the sun turning round Meru, are four islands (*dvīpa*, *dīpa*). They are formed of excellent earth, and rest on the golden earth, or circle of gold (*kāñchanachakra*), with a depth of 80,000 leagues of water (cf. *Divyāvadāna*, p. 197, 7). These islands are supposed to be on a level with the ocean, and it appears that, in this general definition, the small variations that constitute our earthly mountains are not taken into consideration.[3]

(1) In the east is the *Pūrvavideha*, 'Eastern Videha,'[4] in the form of a half or crescent moon, to which are attributed, nevertheless, four sides: three 2000 leagues (*yojana*) long, the fourth 350 leagues (perimeter, 6350 leagues). The men in this continent dwell in towns and villages, and live for 250 years; they are 8 cubits (*hasta*) in height, and their faces, like the continent itself, are half-moon-shaped.[5]

(2) In the south is *Jambudvīpa*,[6] 'Rose-apple-tree's continent,'[7] our continent, the continent where the Buddhas are born. It is a chariot in form, with four sides: three 2000 leagues long, the fourth 3·5 leagues (perimeter, 6003·5). The men there live 100 years at most;[8] their height is from 3·50 to 4 cubits; they resemble the continent in shape. (3) In the west is the *Aparagodāna* (or -°*godānīya* or -°*goyāna*), 'Western pasturage.'[9] It

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[1] See an excellent map of the Chakravāla (100,000 leagues to an inch) in Gogerly, *Ceylon Buddhism*, Colombo, 1908.

[2] There are numerous legends on this 'great ocean'; see Sp. Hardy, *Legends*, p. 121. On the *Mahāsamudra* we may refer to *Saṁyutta*, v. 441.

[3] The generic name of the seven 'interior' oceans is *sīdanta* (?), Tibetan *rol-mtsho*, 'lakes with gentle waves.' For their particular names, see *Dharmasaṅgraha*, § 126; Childers, *s.v.* 'Sāgaro'; Sp. Hardy, *Legends*, p. 84; Rémusat, *op. cit.* p. 80.

[1] The present writer does not know the source of Sp. Hardy's curious description (*Manual of Budhism*, p. 10): Meru is round; at the summit and at the base it is 10,000 leagues in diameter, halfway up (at the sea-level) 50,000, and halfway up the projecting part 30,000 leagues. On Brāhmanical authorities concerning Meru, see Böhtlingk-Roth, *s.v.* 'Meru'; Fausböll, *Indian Mythology*, 1903; E. W. Hopkins, *JAOS*, 1910, p. 366; Al-Bīrūnī, *India*, i. 242, 327.

[2] The Pāli canonical sources seem very scanty; thus the enumeration of the *dvīpas* is missing in the chapter of the 'Fours' in the *Aṅguttara*, while the *Saṁyutta* speaks of four *dīpas*, the possession of which is not so precious as that of the four verities. See Spence Hardy, *Manual*, pp. 4, 14, *Legends*, p. 85; Warren, pp. 40, 64; *Mahāvyutpatti*, § 154; *Dharmasaṁgraha*, § 120; *Divyāvadāna*, p. 214 ff.; *Lalitavistara*, p. 149; Georgi, *Alph. Tibet.* p. 473; Köppen, *Buddhism*, i. 233; Waddell, *Lamaism*, p. 307; Rémusat, *Fo-kouo-Ki*, Paris, 1836, p. 81, *Mélanges posth.* p. 71; Beal, *Catena*, pp. 21, 35. The Brāhmans have various nomenclatures for the continents, and notably one of four: *Bhadrāśva* ('good horses'), *Jambu*, *Ketumāla*, *Uttarakurus* (see E. W. Hopkins, *JAOS*, 1910, p. 368, and art. Cosmogony and Cosmology [Indian]).

[3] Sarad Chandra (*Tibetan Dict.* p. 1173 ff.) gives the names of the mountains of the several continents—six, four, five, and two respectively—with the names of the wild beasts inhabiting them.

[4] *Videha* = the modern Tirhut; Tibetan *lus-ḥphags*, 'noble body' (play on the Skr. word *deha*, 'body'), 'because the human height there is double what it is in our continent,' i.e. in the *Jambudvīpa*.

[5] *Bhūmivaśāt*, 'because of the influence of the place, as well as the inhabitants of the Himālaya or the Vindhya mountains, have particular characteristics' (*A.K.V.* 256a; cf. Sp. Hardy, *Legends*, p. 85). Notice the good foundation for this ethnographical observation. The inhabitants of these parts of India are really of Tibetan race or 'autochthonous.'

[6] Also *Jambusaṇḍ(h)a*, 'thicket of *jambu*-trees' (*Aṅguttara*, iv. 90; *Suttanipāta*, 552; *A.K.V.* 252a).

[7] On this name, see art. Cosmogony and Cosmology (Indian), *Aṅguttara*. i. 104 (1883). According to Śarad Chandra (*Tib. Dict.* p. 1048), this continent is also named 'from the *jam-jam* sound made by the falling from heaven of the leaves of the wishing-tree into the river Ganges.' We are not concerned with the Buddhist geography of this continent (Sp. Hardy, *Manual*, p. 15, etc.).

[8] The *Vibhaṅga* (*PTS*, 1904, p. 422) knows only one length of human life (which is the same as that of *Jambu*): *vassasatam alpam vā bhiyyo vā*. Life differs in one and the same continent according to the period of the age of the world (see Ages of the World [Buddhist], vol. i. p. 189).

[9] This is, at least, the meaning of the Tibetan *Nub ba-lan-spyod*, but *godā* is a geographical name.

is round, *i.e.* it has three sides of 2500 leagues (perim. 7500);[1] length of human life, 500 years; height, 16 cubits. (4) In the north, the *Uttarakuru*, 'Northern *Kuru*-land'[2] (*Auttarakaurava*), is an oblong, 4 × 2000 leagues. There are neither villages nor towns; length of life, 2000 years; height, 32 cubits.

The above dimensions are those of the *Lokaprajñapti* and the *Abhidharmakoṣa* (ii. 53 f.). The *Lalitavistara* has them arranged in this order—9000, 7000, 8000, and 10,000 leagues; Sp. Hardy has 7000, 10,000 (in length and breadth), 7000, and 8000.

In the diagrams which the Buddhist cult (Great Vehicle and Tantrism) uses for the 'offering of the universe,'[3] the continents are represented: (1) half-moon (*ardhachandra*) and white, (2) triangular (*tryaśra*) and golden, (3) circular and red, and (4) square and dark blue.

According to the 'northern' sources, there are alongside of each continent two small continents (*upadvipas*), of the same shape but half the size, in the following order, starting from N.E.E.: Deha and Videha, Chāmara (Chowrie [?]) and Aparachāmara (Western Chowrie), Sāṭas-island and Uttaramantrin-island, Kurus-island and Kauravas-island. Their inhabitants are monstrous creatures with three eyes, legs, and ears (*Kalpadruma*). According to *Jātaka*, i. 63 (Warren, p. 64), there is an archipelago of 500 islands round each continent.

The *Mahāvyutpatti* names the last four 'little continents' according to the names of their inhabitants (cf. *uttarāḥ kuravāḥ* [*Mahābhārata*, vi. 208])—*Sāṭa*, an inhabitant of Saṭa, an ancient geographical name, although the readings *Śāṭā* and *Śāṭhā* have a feminine appearance; Tibetan *gyo-ldan*, 'deceitful' (= *śaṭha*); *Uttaramantrin* = *lam-mchog-hgro*, 'best-way-going.' For *kurus* and *kauravas* (*sgra-mi-sñan* and *sgra-mi-sñan-zla*, according to Desgodins), see Waddell, p. 399.

5. Unhappy existences (*apāya*).—(i.) THE DAMNED.[4]—(*a*) *Hot hells.*—Twenty thousand leagues under *Jambudvīpa* (the southern part, or part under Bodh Gāya) is the *Avīchi* hell ('no release' [?]), forming a cube of 20,000 leagues. Above it are seven other hot hells, called (in descending order): (1) *Sañjīva*, 'reviving,' because winds re-animate the dying damned; (2) *Kālasūtra*, 'black string,' which cuts the damned into pieces (cf. *JPTS*, 1884, p. 76); (3) *Saṅghāta*, 'dashing together,' between mountains, etc.; (4) *Raurava*, 'weeping'; (5) *Mahāraurava*, 'great weeping'; (6) *Tāpana*, 'heating'; and (7) *Pratāpana*, 'greatly heating' (*A.K.V.* ad iii. 58).

Some authorities (cf. *A.K.V.* and Beal, *Catena*, p. 57) think that the hells are pyramidal in shape, each of them being smaller towards the upper part, 'like a heap of grain.' We are told also that each hell is 4000 leagues deep. According to the *Kalpadruma*, there is, first of all, a layer of 500 leagues of white clay, then 600 leagues of black clay, then the *Sañjīva* and the other six hells occupying 10,000 leagues, the last of them, *Pratāpana*, reaching 19,000 leagues underneath the surface of the *Jambudvīpa*; then the *Avīchi* is 20,000 leagues.[5]

No name seems to exist in the earliest Pāli texts for the burning 'great hell' of *Majjhima*, i. 337, iii. 167, 183 (cf. *Aṅguttara*, i. 138), which is also the hell in which schismatics suffer for an 'age of the world' (*kalpa*) (see *Chullavagga*, vii. 5, 4; *Aṅguttara*, v. 76, etc.). This hell is clearly the *Avīchi* of the later literature.[6] See, *e.g.*, the description in *Majjhima* of the *mahāniraya*, which has three names: (1) *chhaphassāyatanika* (cf. *Saṁyutta*, iv. 126), 'six organs (suffering)'; (2) *saṁkusamāhata*, 'reunion of javelins,' because every thousand years (or every hundred years) two javelins pierce the heart of the damned, and meet inside it; and (3) *pachchattavedanīya*, 'to be known only by personal experience.' After innumerable centuries the guilty one passes into the *utsada*, a zone which surrounds the great hell, and where there is access through four gates to the four cardinal points, and there suffers the pain called *vuṭṭhānima*.

On each of the four sides of each hell there are four *utsadas* (*ussada*; *osupat* in Sp. Hardy, *Manual*, p. 27), excrescences (cf. *narakakumbha*, 'hell-jar,' 'hell-prominence'), ante-chambers, or rather 'post-chambers,' of hell, in which the damned in succession are tortured on leaving hell (in which they are sometimes finally rejected). They are: (1) *kukūla* (*kukkūla*), 'fiery pit,' 'chaff-fire'; (2) *kuṇapa*, 'corpse-quagmire' (cf. *gūthaniraya*); (3) *kṣuramārga*, 'razor-road,' etc. (etc. = *asipattravana*, 'sword-leaved forest,' and *śālmalīvana*, 'seemul-forest' with cruel birds); (4) the *nadī*, 'river,' by its name Vaitaraṇī, the Indian Styx, which is conjectured to be as early as the Brāhmaṇas (cf. *Khārodakā nadī* [*Majjhima*], *A.K.V.* iii. 59).[1]

Hell contains sixteen *utsadas* (*brgyad-po kun-la lhag bcu-drug*, 'to each of the eight, sixteen *utsadas*' [*A.K.V.*]). A primitive idea, which is more satisfactory, is to regard the four *utsadas* as so many zones surrounding the igneous cage in the centre.

The damned of the *Sañjīva* live there for 500 years of 12 months of 30 days, but each day is equal to the length of the life of gods in the heaven of the Four Kings (see below, § 6), and so on, life in the *Tāpana* being calculated as a function of the life of the *paranirmitavaśavartin* gods (see *ib.*). In the *Pratāpana* life lasts for half of an *antarakalpa* (see art. AGES OF THE WORLD [Buddhist], vol. i. p. 188), in the *Avīchi* one *antarakalpa* (*A.K.V.*). The interpretation of the *Kośa* is, therefore, similar to Buddhaghoṣa's (*Kathāvatthu*, xiii. 1), which fixes the existence of the damned, called *kalpastha*, 'lasting a *kalpa*,' at $\frac{1}{80}$ of a (great) *kalpa*, while the *Rājagirikas* understand a great *kalpa* here (see the texts concerning schismatics quoted above).[2]

(*b*) *Cold hells.*—According to the northern sources, eight cold hells are distinguished: (1) *Arbuda*, (2) *Nirarbuda*, (3) *Aṭaṭa*, (4) *Hahava*, (5) *Huhuva*, (6) *Utpala*, (7) *Padma*, (8) *Mahāpadma*. (1), (2), (6), (7), and (8) are named from the shape of their inhabitants; in (1) and (2) the damned are like *arbudas*, 'a round mass' ('bubble,' 'tumour,' 'first-month fetus'); in (6), (7), and (8) they resemble lotuses. The names of (3), (4), and (5) are onomatopoetic: the teeth of the damned, knocking against each other with the cold, produce the sound *aṭaṭa*, etc. (*A.K.V.*).[3]

These hells, which are 2000 leagues deep, are arranged in stages, like the hot hells, and near them (*Kalpadruma*); or—a view which seems preferable—they are placed in the 'intra-mundane darkness' (*lokāntarika niraya*), among the Chakravālas (Beal, *Catena*, p. 64, according to *Abhidharmaśāstra*; *Dialogues*, ii. 9). Sp. Hardy (*Manual*, p. 59) places the ghosts (*pretas*) in this darkness.

The ancient Pāli texts, *Saṁyutta*, i. 152, *Aṅguttara*, v. 172, and *Suttanipāta*, p. 123 (*SBE* x. 119), give the same nomenclature with a few variants and additions (Kern, *Manual of Ind. Buddhism*, Strassburg, 1896, p. 58); but the names, originally at least, did not refer to distinct hells. They denoted the periods, increasing by the multiple 20, during which the damned person lives in hell: 'If there were a load of sesamum seed containing sixty bushels (20 *khārīs*), and a man after the lapse of every hundred years were to take from it one sesamum seed, that load would sooner dwindle away than one Abbuda hell; and even as are twenty Abbuda hells, so is one Nirabbuda hell.' The *Abhidharmakośa* (iii. 84) has the same method of counting for the *arbuda*, etc. *Arbuda*, etc., are what are called 'high numerals' (*Mahāvyutpatti*, § 246 [101–102], § 250 [9–14]; see AGES OF THE WORLD [Buddhist], vol. i. p. 188ᵇ).

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[1] $\pi = 3$ in the *Abhidharmakośa*. Sp. Hardy has 3·14285 (*Manual*, p. 10).

[2] Different from the Kurus (Central India) and the Southern Kurus. It is Ptolemy's *Ottorokorra* (see art. BLEST, ABODE OF THE [Buddhist], vol. ii. p. 687, and [Hindu] *ib.* p. 698 f., and also *Aṅguttara*, iv. 396, on the moral and spiritual characters of the *Uttarakurukas*). The Tibetan translation of this word, like several others, is onomatopoetic, *sgra-mi-sñan*, 'disagreeable sound' (*ku-rava*; *ku-√ru*, *ku*, a pejorative, *ru*, 'to make any noise'), 'for during the seven days before death, one hears the disagreeable sound of the death.'

[3] See 'Ādikarmapradīpa,' in Poussin, *Bouddhisme*; *Études et Matériaux*, Brussels and London, 1898, p. 224; Waddell, *Lamaism*, p. 398 (with plate); Georgi, *Alph. Tibetanum*, p. 472.

[4] See art. HELL (Buddhist). The chief sources for the Buddhist hells are *A.K.V.* fol. 256; *Kalpadruma*, p. 5; *Mahāvastu*, i. 4; Nāgārjuna's 'Epistle,' in *JPTS*, 1886; Chandragomin's 'Epistle,' in *Zapiski*, iv. 29 ff.; *JPTS*, 1884, p. 154; Beal, *Catena*, p. 57; Waddell, *Lamaism*, p. 92; and on the pains, *Aṅguttara*, i. 138 (Warren, p. 257); *Divyāvadāna*, p. 375; *Majjhima*, no. 129; *Kathāvatthu*, xx. 3. A comparison with the Brāhmanical and Hindu sources is instructive and necessary (see especially Feer, '*L'Enfer indien*,' in *JA*, 1892, ii. [partly translated in the *JBTS* of India, 1894, pt. iv. app. ii.]).

[5] Cf. Sp. Hardy, *Manual*, p. 27. Waddell makes the hells begin 11,900 leagues below the surface.

[6] *Avīchi*, 'no refuge,' 'no release.' The Chinese sources mention various regions in the *Avīchi*; cf. the *Saddharmasmṛtyupasthāna* (Nanjio, *Catalogue*, 1883, pp. 679, 804) quoted in *Śikṣāsamuchchaya*, p. 69 f., the 'terrible-birds' (8000 leagues), 'the infernal precipice,' 'the hole with wheels,' etc.

[1] On the *utsadas*, see Morris, in *JPTS*, 1887, p. 144; *Mahāvyutpatti*, § 215; Burnouf, *Lotus*, p. 568; E. Senart, *Mahāvastu*, i. 6, 372 note, iii. 369, with which cf. *Majjhima*, iii. 185 (Neumann, iii. 354, translates *kukkūḷaniraya* wrongly as 'dogs' hell'), *JPTS*, 1884, p. 155, 1887, p. 47; Śarad Chandra, *Tib. Dict.* p. 983; Waddell, p. 96; *Suttanipāta*, v. 670.

[2] Buddhaghoṣa gives a different interpretation (ad *Kathāvatthu*, xi. 5).

[3] *Arbuda* = Tib. *chu-bur*, 'water-bubble'; *nirarbuda* = *chu-bur-rdul-ba-can*, 'dust-bubbles' (but elsewhere *rdol-ba-can* [?]); then *so-tham-pa*, 'chattering of teeth,' and *a-chu . . . zer-ba*, 'where one says "Akiu"'; *ut-pa-la lta-bur gas-pa*, 'where one is split [by the cold] like an *utpala*,' *i.e.* the damned are split into 8, 30, or 60 pieces, according to the number of petals of the lotus after which the hell is called (Georgi, *Alph. Tibet.* p. 206; cf. Beal, *Catena*, p. 63, and Waddell, p. 95).

(*c*) There are some hells about which we know nothing but the names, *e.g.* the *Saṁsavaka* (*Vimānavatthu*, p. 50), and the traditions of the Great Vehicle are rich in multiple inventions. We may mention the hells that the Tibetans call 'ephemeral' (*ñi-tshe-ba*), which are the 'frontier hells' of Beal (*Catena*, p. 65), Skr. *prādeśika* or *pratyekanarakas* (?) (see *Mahāvastu*, i. 458, and Burnouf, *Introduction*, p. 320). They are reserved for small sins or for special categories of sinners (see art. BODHISATTVA, vol. ii. p. 744ᵇ). They are found on the borders of the hells, in the ocean, in the world of men, and in the deserts of *Jambudvipa*. There are 84,000 of them.

(ii.) ANIMALS.—The animals form the class immediately above the damned. They are divided into many categories (e.g. *Majjhima*, no. 129), and their special abode is the 'exterior ocean'; but, as everybody knows, they are met with in the world of men, and (in spite of what certain heretics say) not in the world of the gods (*Kathāvatthu*, xx. 4).

(iii.) PRETAS, 'THE DEAD' or 'GHOSTS.'—The popular beliefs concerning the dead have not yet been systematized, as may be seen from the *Petavatthu* and the literature of every epoch (see artt. DEATH, etc. [Buddhist], STATE OF THE DEAD [Buddhist], etc.). Speaking generally, we may say that the *pretas* dwell almost everywhere throughout the world of men, but especially in the kingdom of *Yama*, which is divided into 36 provinces, situated 500 leagues below *Jambudvīpa*. There they live 500 years, a day being equal to a human month.[1]

(iv.) ASURAS, 'NON-GODS.'[2]—Their abode is especially in the caverns of Mount Meru, below the level of the sea, where there are four towns of 11,000 leagues, at depths of 20,000, 40,000, 60,000, and 80,000 leagues, namely, 'Shining,' 'Star-tassel,' 'Deep,' and 'Golden town,' with Rāhu (the spirit of the eclipse), Kaṇṭhamālādhara, Puṣpamālādhara, and Vemachitra as kings.[3] But they often leave their abysses to conquer Meru, and fight with the 'Thirty-three gods' and their vanguard (dragons and *yakṣas*); hence the mistake made by some authors in saying that they dwell on the fourth stage of Meru.

There is an infinite number of *yakṣas* (*yakkha*, 'a being to be worshipped,' 'a powerful spirit' [Kern, *Manual*, p. 59]), terrestrial (*bhauma*, living on the surface of the earth and under the earth), atmospheric, etc.[4] Three categories occupy a special place in our sources (*Abhidharmakośa*, iii. 56) as inhabitants of Mount Meru.

On Meru there are four terraces (*pariṣaṇḍa*, *ban-rim*) of 16,000, 8000, 4000, and 2000 leagues, separated from each other by 10,000 leagues. The fourth is reserved for the Four Kings, who are classed as gods (*devas*) (see below, § 6); the other three are inhabited by (1) the *yakṣas karoṭapāṇis*, 'bowl in hand,' (2) the *yakṣas mālādharas*, 'bearing garlands,' and (3) the *yakṣas sadāmadas* (*sadāmattas* [*Dīgha*, ii. 260]), 'always drunk.'[1]

6. Heavens of the concupiscence-world (*kāmadhātu*).—(*a*) On the fourth terrace of Meru is the retinue of the Four Great Kings (*chāturmahārājakāyikas*, *catummahārājikas*), 80,000 in all (?),[2] and (higher up, if we are to believe *Dīgha*, i. 216) the Four Great Kings, rulers of the cardinal points. These are the first beings who regularly receive the name of 'gods,' and are classed as such. The length of their life is 500 years, a day being equal to 50 human years, and their height is ¼ *krośa* (= ⅛ *yojana*, 'league'). Perhaps the numerous servants and courtiers of the Great Kings, the *gandharvas*, 'celestial musicians,' etc., although they are not *devas*, ought to be regarded as belonging to this category.

Half-way up Meru are the chariots of the sun (51 leagues), of the moon (a league further down), and of the stars. These deities do not form a special class.[3]

(*b*) On the summit of Meru are the gods 'who have the Thirty-three at their head' (*trāyastriṁśas*; *tāvatiṁsas*), to the number of 100,000 (?), and, above them (according to *Dīgha*), is their king Śakra, *devānam inda*, 'the Indra of the gods.' Their town, 'Lovely view,' is 2500 miles square, and contains the Palace of Victory (*vaijayanta* [*Majjhima*, i. 253]), etc. They live for 1000 years, one day being equal to 100 human years (*Dīgha*, ii. 327),[4] and their height is ½ *krośa*.

Then there are palaces which might be called aerial (*vimāna*):[5]

(*c*) 160,000 leagues above *Jambudvīpa*, *i.e.* 80,000 above the Thirty-three, and 80,000 leagues broad, the palace of the *yāmas* gods,[6] whose king Suyāma, according to *Dīgha*, dwells higher up. Length of life, 2000 years, one day = 200 human years; height, ¾ *krośa*.

(*d*) The abode of the *tuṣitas*, 'satisfied' or 'blissful'; the residence of a future Buddha before his last existence; king, Samtuṣita; length of life, 4000 years; height, 1 *krośa*.

(*e*) The abode of the *nirmāṇaratis*, 'who have their pleasure in creation,' 'happy creators'; king, Sunirmita, 'well-built.' According to the *A.K.V.*, the meaning of this name is 'enjoying self-created pleasures,' in contrast with the inferior gods, who enjoy objects which are presented to them on account of their deserts (cf. *Itivuttaka*, p. 94). Length of life, 8000 years; height, 1¼ *krośa*.

(*f*) 1,280,000 leagues above *Jambudvīpa*, 640,000 leagues broad, the abode of the 60,000 *paranirmitavaśavartins* (*paranirmita*, and sometimes wrongly [?] *pari°*), having Vaśavartin, 'the sovereign,' as king (*Dīgha*, i. 219). The name of these gods means 'rulers over the things created by others,' 'disposers of others' creations' (C. A. F. Rhys Davids' tr.), *i.e.* they themselves create, or they cause others to create, the objects of enjoyment which they desire. Length of life, 160,000 years, one day = 16,000 human years; height, 1½ *krośa*.

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[1] A study of the *pretas* 'with magical power,' and of the king of the *pretas* (*pettirāja*), as well as that of the 'guardians of the hells' (who may bear the name of god [*Kathāvatthu*, xx. 3]), etc., belongs to the doctrine of existing beings rather than to cosmology.

[2] On the *asuras*, see above, p. 130; and art. DAITYA.

[3] According to *Kalpadruma*, p. 5; Beal (*Catena*, p. 51) is of a different opinion. See Burnouf, *Introduction*, p. 601 (incorrect); Köppen, i. 246; Nāgārjuna's 'Epistle,' in *JPTS*, 1886, p. 27; *Mahāvyutpatti*, § 171; *Divyāvadāna*, pp. 126, 148, 222; *Mahāvastu*, i. 30, ii. 344, iii. 138, 254. The *Mahāvastu* speaks of five armies of *asuras*, but mentions only three kings—Vemachitrin, Rāhu, and Muchilinda. The *Kathāvatthu* (viii. 1) associates the companions of Vepachitti with the gods, and the *kāḷakañjakas* with the *pretas*. On the war of the *asuras* with the *suras*, see *Aṅguttara*, iv. 433; *JPTS*, 1903, p. 143, etc.

[4] We may mention the twenty-eight generals of the *yakṣas* referred to in *Lalitavistara*, p. 202.

[1] See *Mahāvyutpatti*, § 163, 36–38; Burnouf, *Introduction*, p. 599 (quoting Georgi, p. 480); *Mahāvastu*, i. 80; *Divyāvadāna*, p. 218 (which mentions *nāgas*, 'dragons,' resting on the water [*udakaniśrita*] at the foot of Meru); Morris, *JPTS*, 1891, pp. 21–25. These *genii*, *dii minores*, are sometimes called *devas*, especially the *karoṭapāṇis* (*Divyāvadāna* and *Mahāvyutpatti*); so also the *bhaumās devās* in *Lalitavistara*, etc. *Deva-putra*, 'god-son,' 'divine,' is sometimes an epithet of greater gods.

[2] According to *Lalitavistara*, p. 46, 19.

[3] See *A.K.V.* iii. 60; Beal, *Catena*, p. 71; Spence Hardy, *Manual*, p. 26.

[4] Here, as elsewhere, years consisting of 12 months of 30 days are meant. In *Divyāvadāna*, p. 225, the day of Śakra and of the Thirty-three is equal to only one human year; hence a total of 360,000 human years.

[5] The Tibetan translation means 'non-measurable (*vi-māna*) mansions.' These palaces may be spiritual, *i.e.* they are composed of subtle matter: 'splendid, pagoda-shaped palaces, movable from place to place by an effort of will' (Childers, *Dict.* p. 574); see *Vimānavatthu*, and Böhtlingk-Roth, *s.v.* 'Vimāna.'

[6] The meaning of *yāmas* is not clear. The Tibetan is *hthab-bral-ba*, 'free from battle,' because they have not to wage war with the *asuras*, as the Thirty-three have to do. The *yāmas*, as we have seen (§ 3), are created before the *chakravāla*. The kings are named in *Lalitavistara*, p. 44.

Some sources regard Māra, the Satan of early Buddhism, as the Supreme god of the world of concupiscence, and assign a special place to him, Mārabhavana, with 68,000 good assistants. Length of life, 32,000 years (see *Lalitavistara*, index, and Beal, *Catena*, p. 83, who adds, from the Chinese *Dīrghāgama*, the weight of the clothing of each class; it varies from 1 oz. to 1/16 oz.).

The gods of 'concupiscence' (*kāmabhogin*) enjoy sensuous pleasures; but there is a progressive refinement in their food (see C. A. F. Rhys Davids, *Buddh. Psych.* p. 197). In the higher spheres the sexual act is accomplished by binding (*āliṅgana*, among the *yāmas*), by joining hands (*pāṇyāpti*, among the *tuṣitas*), by smiling (*hasita*, among the *nirmāṇaratis*), or by a simple look (*īkṣita*, among the *paranirmitavaśavartins*) (see *A.K.V.* iii. 62, and Georgi, p. 483). On the birth of the gods, who do not come out of the womb, although they are not 'apparitional beings' (see § 7), see Beal, *Catena*, pp. 74, 78, and cf. Waddell, *Lamaism*, p. 86.

The Four Kings and the Thirty-three are well-known in the Brāhmanical sources, and are much older than Buddhism. There are several Brāhmanical references to the *yāmas* (*suyāmas*), *tuṣitas*, *nirmāṇaratas* (*Mahābhārata*, xiii. 18, 74; see Burnouf, *Introd.* p. 604 f.), but they are probably borrowed from Buddhism (*tuṣitā brahmakāyās*).

The sextuple division of the gods of concupiscence appears in the earliest Buddhist books, e.g. *Majjhima*, ii. 194, iii. 100, *Dīgha*, i. 216; and the length of the lives is fixed just as in the scholastic era (*Vibhaṅga*, p. 422). But lists of gods, like *Dīgha*, ii. 256 (six series of ten divine groups, *kāyas*), seem to be older than this sextuple division (see reference to *yāmas*, etc., on p. 261).

7. Heavens of the material world (*rūpadhātu*) or Brahmā-world.—Probably the most ancient documents on divine beings superior to the *devas* properly so-called, to the gods of desire, are *Dīgha*, i. 17, 34, 195.[1] The following is a summary. According to the 'names, expressions, turns of speech, designations in common use in the world' (the indifference of Buddhists to what is not the way of salvation is clearly shown in these precautions of the ancient editor, who seems to have been conscious that the Buddha regards such things as accessory and un-sure), there are three classes of gods (or kinds of existence, *attabhāva*), which must not be called by each other's names, viz. (1) 'divine, having form (or material, *rūpī*), belonging to the sensuous (or sexual) plan (*kāmāvachara*), feeding on solid food,' in a word, 'solid' (*olārika*), 'formed of the four great elements'; (2) 'divine, having form, made of mind, with all major and minor links complete, not deficient in any organs,' in a word, 'made of mind' (*manomaya*);[2] (3) immaterial (formless), made up of consciousness (or thought, *saññā*) only.

To the first class belong the six categories of gods 'who enjoy pleasures' (*kāmabhuj*), the Four Kings, . . . the *paranirmitavaśavartins*.

We must now consider the second class, ***rūpāvachara***, or gods of the realm of matter, of whom Brahmā is the ancient type and the representative *par excellence* to such a degree that the 'world of matter' is called the 'world of Brahmā.' The gods here are born without parents, by apparitional birth (*aupapātika*); they are not immaterial, but their matter is subtle (*sūkṣma*, *praṇīta*), for they feed on joy (*prītibhakṣa*), and are luminous—the same as the first men (see art. AGES OF THE WORLD [Buddhist], vol. i. p. 190ᵃ). We may compare the *ṛibhus* of *Mahābhārata*, iii. 15461: 'They have divine bodies, and not material forms' (*vigrahamūrti*).[3] The idea of the progressive refinement of the body of the gods is old (*Śatapathabrāhmaṇa*, x. i. 5. 4; *Taittirīya Upaniṣad*, ii. 1–5 [Rhys Davids, *Dialogues*, i. 48]); and with the Brāhmans the worlds of Prajāpati (cf. *Majjhima*, i. 2) and Brahmā were placed above the heavens of the *karma*-gods (gods owing to their merit) and the birth-gods (*Taitt. Up.* ii. 8; Windisch, *Buddha's Geburt*, Leipzig, 1908, p. 15). Being by his nature invisible to the inferior gods, Brahmā creates a 'solid' body for himself when it pleases him to show himself to the Thirty-three (*Dīgha*, ii. 210). In this respect there is some resemblance between the *Kenopaniṣad* and *Dīgha*, i. 220. The connexion is still more marked with *Majjhima*, i. 330, where Brahmā (the god Brahmā then called *Baka*, 'Heron') tries in vain to disappear from the eyes of Buddha; he was more successful with Varuṇa, the Vedic god.

The text which we have quoted, 'divine . . . with all major and minor limbs complete' (cf. *Majjhima*, ii. 17, l. 26), is clear enough: the *rūpa*-gods possess all the organs of the body. This opinion, however, came to be regarded as almost 'heretical' by Pāli orthodoxy as well as by Northern orthodoxy (see *Vibhaṅga*, p. 418: *Kathāvatthu*, viii. 7, with the commentary, and *A.K.V.* [Burn. 44]). Smell (*gandha*) and taste (*rasa*) are solid food (*kavaḍīkārāhāra*), and consequently cannot be perceived by the gods of *rūpadhātu*; therefore noses and tongues are useless to them. If these gods possess these organs, it is replied that it is merely for reasons of beauty. The sexual organ is of no use to them, and it would detract from their beauty if it were not hidden as it was in the body of Śākyamuni (see *Suttanipāta*, p. 99 = *SBE* x. 100, and elsewhere). This discussion, which we might consider rather frivolous, is characteristic of a part of scholastic Buddhism; there are some points in it which we shall never see clearly, and about which the Buddhists themselves are confused.

The Buddhists, making the most of the theory of the four *dhyānas* (*jhānas*, 'trances'), have established very coherent systems on the hierarchy of the so-called 'material' celestial spheres. The complete table is as follows:

(i.) FIRST-TRANCE HEAVENS.—(1) *Brahmapārṣadyas* (or *°kāyikas*),[1] retinue of Brahmā; length of life, 20 small ages of the world (20 *antarakalpas* = ¼ great *kalpa*); height, ½ league. The heaven is situated 2,580,000 leagues above *Jambudvīpa*,[2] and is 1,290,000 leagues broad. These numbers have to be doubled for the following heavens. (2) *Brahmapurohitas*, 'Brahmā-chaplains'; length of life, ½ great *kalpa*; height, 1 league. (3) *Mahābrahmāṇas*, 'Great Brahmās'; length of life, ¾ *kalpa*; height, 1½ league.[3]

The common opinion is that there are as many stages as there are classes of gods. But some say that 'Brahmā has no distinct abode; only in the middle of the *purohita*-heaven there is a high storeyed tower, and this is the abode of Brahmā.' Every trance-heaven has a king, ministers, and people (Beal, *Catena*, p. 95; cf. *Aṅguttara*, ii. 126, where Brahmakāyika [life, 1 *kalpa*] is the general name of the gods of the first trance). Contrast with this *Dīgha*, i. 216: the retinue of the great Brahmā does not know 'where, why, whence Brahmā is.' This text is not familiar with *purohitas*. On the other hand, according to *A.K.V.*, the Kashmirians do not distinguish the *purohitas* from the great Brahmās. It will be noted that this plural, 'great Brahmās,' is strange, because there cannot be, and in former Buddhist mythology there was not, more than one Brahmā. But the early texts, when mentioning several 'prænomens' of different Brahmās, probably believed to belong to different cosmoi or to different ages of the world, have opened the way for this new idea. On different classes of Brahmās, see below, § 9.

(ii.) SECOND-TRANCE HEAVENS.—(1) *Parīttābhas* ('Limited splendour'); length of life, 2 *kalpas*; height, 2 leagues. These figures are doubled for the next five classes. (2) *Apramāṇābhas*, 'Immeasurable splendour.' (3) *Ābhāsvaras* (*Ābhassara*), 'Radiant.'[1]

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[1] See Rhys Davids, *Dialogues*, i. 46, 259, 260 (line 2 to be read: 'The second has form.' . . .); cf. *Sumaṅgalavilāsinī*, *ad loc.*

[2] On *manomaya*, see art. BODHISATTVA, vol. ii. p. 742ᵇ, note §; also *A.K.V.* 265.

[3] See Fausböll, *Indian Mythology*, p. 144.

[1] Mentioned in *Saṁyutta*, i. 145, 155. The *Lalitavistara* (p. 150) draws a distinction between *°kāyikas* and *°pārṣadyas* (see also p. 44).

[2] According to *Kalpadruma*. Feer (*AMG* v. 535) says 256, *i.e.* double the height of the heaven of the *paranirmitavaśavartins*.

[3] We give the heights and lengths of life according to the *A.K.V.* 'The first gods of the *rūpa*-world are ½ *yojana* in height; another ½ *yojana* must be added for the following classes, and one must double from the *parīttābhas*.' As regards the length of life, the Pāli sources have for these three classes ⅓, ½, and 1 *kalpa* (*Vibhaṅga*, p. 424; Warren, p. 290). The text quoted in the commentary to *Kathāvatthu*, xi. 5, however, assigns a *kalpa* to the *brahmakāyikas*; but, according to Buddhaghoṣa, it refers to a *kappekadesa*, *i.e.* a portion of a *kalpa*. The *Abhidharmakośa* has ½, 1, 1½ *kalpa* (see Feer, *AMG* v. 535); but its commentary, the *Vyākhyā*, maintains that *kalpa* must be taken to mean ½ *kalpa*, therefore ¼, ½, ¾. It refers to a large *kalpa*; but, according to the *Kalpadruma*, the length of life in the *rūpa*-world extends from a small *kalpa* (1/16 of a large *kalpa*) to 16 small *kalpas*.

(iii.) THIRD-TRANCE HEAVENS.—(1) *Parīttaśubhas*, 'Limited beauty.' (2) *Apramāṇaśubhas*, 'Immeasurable beauty.' (3) *Subhakṛtsnas* (*Subhakiṇha*, wrongly *Subhakiṇṇa*), 'Complete beauty';[2] length of life, 64 *kalpas*, *i.e.* until the return of the destruction of the cosmos by wind (see AGES OF THE WORLD [Buddhist], vol. i. p. 188); height, 64 leagues.

(iv.) FOURTH-TRANCE HEAVENS.—(1) *Anabhrakas* ('Cloudless'); 125 *kalpas* and leagues (not 128, which would be double that of the *Subhakṛtsnas*); these numbers are doubled for the following classes. (2) *Puṇyaprasavas*, 'Merit-born' (Tib. *bsod-nams-skyes*), or perhaps 'Merit-begetting' (?). (3) *Bṛhatphalas* (*Vehapphalas*), 'Abundant fruit.'[3] (4)–(8) bear the generic name of *Śuddhāvāsa*, 'Pure abode,' whence *Śuddhāvāsikas*, *Śuddhāvāsakāyikas*, 'inhabitants of the Pure abodes.'[4] (4) *Avṛhas* (*Avihas*), 'Effortless' (?).[5] (5) *Atapas* (*atappa*=*atāpya*), 'No heat,' 'Cool gods.' (6) *Sudṛśas* (*Sudassa*), 'Beautiful.' (7) *Sudarśana* (*Sudassin*), 'Well-seeing.' (8) *Akaniṣṭhas*, 'Sublime' (='not youngest,' 'not smallest'), also called (or subordinated to) *Aghaniṣṭhas*, 'at the end (*niṣṭha*) of the compact' (*agha*), *i.e.* 'at the top or the end of the material world';[6] length of life, 16,000 *kalpas*; height, 16,000 leagues.

The total number of 'places' or 'stages' in the *rūpa*-world, therefore, is seventeen, according to the *Abhidharmakośa* (iii. 2); the Kashmirians suppress one of them (see above, p. 135b). The Pāli tradition of *Abhidharma* counts only sixteen; it has neither the *Anabhrakas* nor the *Puṇyaprasavas*, but it adds the *Asaṁjñasattvas* (°*devas*, 'unconscious beings,' 'gods') as follows: FOURTH TRANCE.—(1) *Asaññasattas*, (2) *Vehapphalas*, (3) Pure abodes, five in number. [In later documents, *e.g.* in *Abhidhammatthasaṁgraha*, v. 2–6, 10, tr. Warren, *Buddhism*, p. 289, the *Asaññasattas* come after the *Vehapphalas*; and the same arrangement occurs in Northern texts, viz. *Lalitavistara*, p. 150, *Dharmasaṅgraha*, § 128; Beal, p. 85 (according to *Dīrghāgama*?), which add the *Asaṁjñasattvas* to the list of the *Kośa*.][7]

Lastly, certain sources place the heaven of Mahāmaheśvara, the Great Lord, Śiva, above the *Akaniṣṭhas*—a non-Buddhist idea borrowed from Hinduism (*Mahāvyutpatti*, § 161; Triglotte, 53; Rémusat, *Fo-koue-ki*, p. 146).[1]

We shall now venture to make some more or less hypothetical remarks on the origin and development of this theological cosmology. It is probable that Brahmā was at first regarded as the greatest god (see *Dīgha*, i. 222, ii. 210), and his name has remained attached to the *rūpa*-world (see, *e.g.*, Index *s.v.* 'Visuddhimagga,' Warren-Lanman, *Buddhism in Translations*, Cambridge, Mass., 1909, *Subhakiṇhabrahmaloka*, etc., and even *Rupārūpabrahmaloka*, material and immaterial Brahmā-world). Scholars have established a hierarchy of beings according to *vijñānasthiti* (position [?] of intellect) (*Dīgha*, ii. 69, cf. *Aṅguttara*, iv. 40): (1) *Brahmakāyika*, (2) *Ābhassara*, (3) *Subhakiṇha*, and, according to the trance (*Aṅguttara*, ii. 126), . . . (4) *Vehapphala*, for which the catalogues of 'abodes of beings' (*sattvāvāsa*) have (*Aṅguttara*, iv. 401), . . . *Asaññasatta*. On the other hand, *Majjhima*, i. 2, enumerates Prajāpati, Brahmā, Ābhassara, Subhakiṇha, Vehapphala, and Abhibhū. To get a scheme very near the classical (scholastic) scheme, the classes of Ābha and Subha had to be formed in imitation of the classes of Brahmā (*pārṣadya*, *purohita*); and this is what we find in *Majjhima*, iii. 102: Parittābha, Appamāṇābha, Ābhassara, Parittasubha, etc. The Vehapphalas of *Majjhima*, i. 2, are kept, and in place of the Abhibhūs are put four categories: Aviha . . . Akaniṭṭha. But *Dīgha*, ii. 52, adds the fifth category, Sudassī (Sudarśana). It is possible, therefore, to follow to a certain point the scholastic work which has amalgamated separate traditions and speculations; from an epithet like *ābhāsvara* a class of gods was made, and in the end three classes and three heavens were deduced from it.

8. Immaterial sphere (*arūpadhātu*, *ārūpya*).—There are two views on the *ārūpya*. According to the first, which keeps to the letter of the canonical texts,[2] the *ārūpya* is not part of the receptacle-world; it contains only 'spiritual' beings, free from matter, disembodied intellects (*vijñāna*), consisting in thought (*saññāmaya*). When the transmigrating *vijñānas* are re-born (if we may say so) into this category, they create the intellectual apparatus (*nāman*) for themselves, but do not accumulate matter (*rūpa*), or organs of knowledge (*ṣaḍāyatana*).

Instead of 'places,' the *ārūpya* presents four 'aspects' (*ākāra*), according to the state of the pure intelligences which constitute it. There are (1) the realm of the infinity of space (*ākāśānantyāyatana*), (2) the realm of the infinity of intellect (*vijñāna*°), (3) the realm of nothingness (*akiṁchanyāyatana*), and (4) the realm of neither consciousness (or notion) nor not-consciousness (*naivasaṁjñānāsaṁjñāyatana*),[3] according to the kind of meditation in which the mind finds itself absorbed for 20,000, 40,000, 60,000, and 80,000 'great *kalpas*.'[4]

The first three realms are *vijñānasthitis*[5] (*Dīgha*, ii. 69; *Aṅguttara*, iv. 40), 'meditations on which intellect (*vijñāna*) dwells (*sthiti*)'—an intellect which has in this world been absorbed in one of the meditations, 'space is infinite,' 'intellect is infinite,'[6] 'there is nothing,' and finds itself, for countless centuries, in the same meditation—and *vijñānasthitis* only, for intellect is disincarnated and without any relations to matter (*rūpa*). Like the *Asañjñāsattvas*, 'Unconscious,' the fourth 'realm' is not a *vijñānasthiti*, but a *sattvāvāsa*, 'dwelling-place of beings,' or an *āyatana*, 'place,' for it does not include attachment to (or dwelling of intellect upon) any kind of existence, being established on an absolute indifference (*upekṣā*).

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[1] *Ābhassara* appears in several early texts, not as the name of the third category of the second trance, but (1) as the general name of the gods of the first rank (*Saṁyutta*, i. 114) above Brahmā (cf. the gods 'of beyond' [*taduttari*] in *Aṅguttara*, iii. 287); see, e.g., *Dīgha*, i. 17; *Aṅguttara*, iv. 89, v. 60. During the period of chaos the future Buddha dwells among the Ābhassaras (see art. AGES OF THE WORLD [Buddhist], vol. i. p. 190, on the Buddhist Genesis); and (2) as the general name of the gods of the second trance in *Aṅguttara*, ii. 127 (life, 2 *kalpas*).

[2] General name of the gods of the third trance in *Aṅguttara*, ii. 127 (life, 4 *kalpas*). In ii. 231 this expression means 'completely happy'; but *śubha* is taken to mean 'beauty' in *A.K.V.* 265a; Warren translates it 'lustrous.'

[3] General name of the gods of the fourth trance in *Aṅguttara*, ii. 128 (life, 500 *kalpas*).

[4] *Saṁyutta*, i. 26; *Majjhima*, i. 82. A future Buddha is never re-born in these heavens, which are reserved for the *Anāgāmins*, saints who obtain *nirvāṇa* without being re-born in the world of men (*A.K.V.* 207b: *JPTS*, 1905, p. 102).

[5] Tibetan *mi-che-ba*, 'not great' (from *abṛhat*); Chinese, according to Beal, 'without heat,' and, according to Eitel, 'no thought.' These gods are named in *Saṁyutta*, i. 35, 60; *Dīgha*, ii. 50.

[6] *Lalitavistara*, 44, 13 (*niṣṭhagatāś chā kaniṣṭhāś cha*); *Mahāvyutpatti*, § 161; Beal, p. 85, n. 10; Wogihara, *Asaṅga's Bodhisattvabhūmi*, Leipzig, 1908, p. 18, who quotes *A.K.V.* *Akaniṭṭha ajyeṣṭha*, 'neither the youngest nor the oldest,' is an epithet of the Maruts (*Rigveda*, v. 59. 6, v. 60. 5). The *Akaniṣṭhas* are the most distinguished gods, *paṇītatara* (*Dīgha*, ii. 286). References to these gods are comparatively rare in the ancient texts. The *Saṁyutta* uses the phrase *uddhaṁsota* . . . *akaniṭṭhagāmin*, 'mounting . . . going to the *akaniṭṭha*.'

[7] It should be noticed that the *Vibhaṅga* (p. 425) attributes the same length of life (500 *kalpas*) to the *Asaññasattas* and to the *Vehapphalas*; and Beal (p. 95), following the *Vibhāṣā* (Sarvāstivādin), explains that the heaven of the Unconscious (like the world of Brahmā) is inhabited by heretics. By all other reports, it is similar to that of the *Bṛhatphalas*. We may, therefore, believe that the Asaṁjñin heaven does not form a separate region, *bhūmi* or *pradeśa*, and understand why the *Abhidharmakośa* is not concerned with it in its nomenclature of the heavens of the *rūpa*-world. On the Unconscious, see esp. *Dīgha*, i. 28; Rhys Davids, *Dialogues*, i. 41 note, ii. 60; *Kathāvatthu*, iii. 11.

[1] See also *Lalitavistara*, p. 4, l. 12, 6. 12, 42. 12, 112. 8, etc.

[2] This is the orthodox theory (*Vibhaṅga*, pp. 183, 419; *Kathāvatthu*, viii. 8; *Abhidharmakośa*, iii. 3, with comm. 224 a, 254 a, Chandrakīrti's *Pañchaskandhaprakaraṇa*).

[3] This is the 'summit of existence' (*bhavāgra*). It will be seen (Waddell, *Lamaism*, p. 85, and art. ĀDIBUDDHA, vol. i. p. 94b, inaccurate) that the *Akaniṣṭhabhavana* has been placed above the immaterial heavens to serve as a dwelling-place for Ādibuddha.

[4] The numbers are already given in *Aṅguttara*, i. 267, but there they refer to *kalpas* without the epithet 'great.'

[5] See Childers, *Dict.* p. 579; *Dialogues*, ii. 68.

[6] It is very difficult to form an exact idea of these meditations or concentrations (*samāpatti*), especially of the second. Is it the same as the contemplation of 'the invisible, infinite thought' (*viññāṇa*) of *Majjhima*, i. 329? This would be a doctrine similar to the *Vedānta* and the *Yogāchāra*. See *Compendium* (*PTS*, 1910), p. 64. It is well known that these 'concentrations' are given by Buddhist tradition as previous to Śākyamuni (e.g. *Majjhima*, i. 164; Warren, p. 335).

But we must not regard the double negation 'neither consciousness . . .' as an absolute negation of consciousness; thought (*chitta*) and its derivatives (*chaitta*) remain, although in a very attenuated state.[1] In fact, if thought happened to cease in these immaterial existences, the result would be *nirvāṇa*; and we know (*Aṅguttara*, i. 267) that 'non-converted' persons (*pṛthagjana*) may reach them without being worthy of *nirvāṇa*, without being free from the danger of falling back again into hell or among the *pretas*.

Several schools maintain the existence of 'matter' in the 'Immaterial World.' This refers to a 'fine or attenuated form of matter,' according to the *Mahāsāṁghikas*, but such that it includes the five kinds of perceptible knowledge (*vijñānakāyas*).[2] The syllable *ā* of *ārūpya*, 'formlessness' (which is the *vṛddhi*, initial emphasis, of the abstract word derived from *ārūpa*, 'formless'), is explained as a diminutive (*īṣadarthe*). An argument in favour of this opinion is that the intellect (*vijñāna*) needs a material support (*āśraya*), and this support must be the special 'matter' called *hṛdayavastu*, 'heart-thing' (according to the *A.K.V.* the opinion of the Tāmraparṇīyas, *i.e.* the Buddhists of Taprobane, the Sinhalese).[3] Another argument is that, according to the formula of 'dependent origination' name (intellectual data) and matter (*rūpa*) proceed from *vijñāna*.[4]

9. Cosmic systems, chiliocosms.—It is possible that the most ancient Buddhist cosmology did not imagine anything but the 'small universe,' the *chakravāla* properly speaking; but, in documents which appear to be very archaic (agreeing, in fact, with what we believe we know of the teaching of the Buddha), the notion of the infinity of the world is stated—from which arises that of the existence of other universes (*lokadhātu*) or *chakravālas* similar to ours;[5] and in the *Aṅguttara* (i. 227) we find great combinations of 'thousands of universes,' which will remain the basis of the 'great cosmology,' if we may thus express it, namely: (1) A system of a thousand universes, 'small chiliocosm,' *sahassī chūḷanikā lokadhātu*,[6] or *sahassadhā loka* (*ib.* v. 59); (2) a system of a million universes, a thousand 'small chiliocosms'; this is the 'middle chiliocosm,' *dvisahassī majjhimikā lokadhātu* ('two-thousandth middle universe'); and (3) a system of a thousand million universes, 'great chiliocosm,' or 'three-thousandth great-thousandth universe,' *tisahassī mahāsahassī lokadhātu*.[7]

The traditional meaning of the words *dvisahassī*, *tisahassī*, seems to be quite clear. The *Aṅguttara* says that the *dvisahassī* =1000 *sahassī*, and the *tisahassī*=1000 *dvisahassī*. *Dvi* and *ti* are exponents, not multipliers. We find 1000, 1000^2, 1000^3. Schmidt's interpretation, 'das grosse Tausend der 3000 Welten,' is wrong; and Köppen (*Buddhismus*, ii. 337) is also inexact, if we can trust the *Aṅguttara* and the *Abhidharmakośa*. But it must be remembered that the universes appear grouped in triads in order to form the hell of 'intramundane darkness'—which justifies the number 3000. But in the multiplication of 1000 by 1000 there are other differences which strike scholars: 'The holy words of Buddha cannot be in disagreement; how is it then that there are so many differences in the accounts found in the *sūtras* and treatises (*Abhidharmaśāstras*)? For instance, in regard to the number of mountains called Sumeru (there is a Meru is each small universe, *chakravāla* [see above, p. 131]), if we rely on the *Āgamas* (=Pāli *nikāya*, 'canonic collection') and the *Kośa*, each great chiliocosm has one thousand million, whereas the *Suvarṇaprabhāsa* and the *Avataṁsaka* (Great Vehicle) say there are only ten millions. Then with regard to the various measurements and the contradictory statements relating to the number of the *rūpa*-heavens,[1] how are these differences to be accounted for?'[2]

In order to establish a sort of coherence among these multiplications of universes and on account of theories on the more or less complete destructions of the world, the following arrangement has been imagined:—

One thousand *chakravālas* make a small chiliocosm, with 4000 continents, 1000 Merus, and 1000 heavens of Brahmā-gods (gods of the first trance). This small chiliocosm is surrounded by a mountain which separates it from the neighbouring small chiliocosms; and there is by way of a roof, so to speak, a heaven of gods of the second trance. The middle chiliocosm includes 1000 heavens of this second trance, with as many small chiliocosms beneath them; the walls reach up to the third trance; it is covered by a heaven of the third trance. The great chiliocosm comprises 1000 heavens of this trance, and is crowned with a heaven of the fourth.

The documents which show this superimposing do not seem to be very old (Köppen, i. 236; Rémusat, *Mélanges posthumes*, p. 94; but Beal, p. 103, cites the *Vibhāṣāśāstra*). The *Lalitavistara* (p. 150) certainly does not know it, for it informs us that the great chiliocosm contains a thousand million (100 *koṭis*) heavens of each kind.

We must point out a certain number of cosmic multiplications which are independent of and probably previous to the chiliocosmic conception; e.g. *Mahāvagga*, i. 6, 31 (*Jātaka*, i. 63), *ayaṁ dasasahassī lokadhātu* (where the reference is to 10,000 worlds and not to 1000^{10} worlds); *Dīgha*, ii. 139, where the gods of ten universes (*dasāsu lokadhātusu*) gather together to be present at the death of the Buddha. There are different kinds of Brahmā-gods; in *Dīgha*, ii. 261, Mahābrahmā, 'the great Brahmā,' reigns over 1000 Brahmā-worlds; *Majjhima*, iii. 101, distinguishes between a *Sahasso brahmā*, 'thousandth Brahmā,' governing a *sahassī lokadhātu* (cf. *Aṅguttara*, i. 277), a *Dvisahasso* . . . and a *Dasasahasso* (10,000th-Brahmā), governing a *dasasahassī lokadhātu* (cf. *Saṁyutta*, i. 146). See *Visuddhimagga*, xiii. (Warren, p. 321; S. Hardy, *Manual*, p. 2; Burnouf, *Lotus*, p. 363) on the three 'fields' or 'domains' (*kṣetra*) of a Buddha: 'Birth-domain (*janma*^{0}) comprises 10,000 worlds; all tremble at different moments in the life of a Buddha (cf. *Mahāvagga*, i. 6, 31). Authority-domain (*ājñā*) comprises a hundred thousand times ten millions of worlds (=100 great chiliocosms); over all extends the protecting power of the "formulæ of protection" (the so-called *parittas*) given by the Buddha. Knowledge-domain (*jñāna*^{0}) is without limit.' The *Mahāvastu* mentions a *buddhakṣetra* equal to 61 great chiliocosms, and an *upakṣetra* equal to 244 great chiliocosms (i. 121, cf. pp. xxxii and 471, and iii. 341). In the later literature 'great chiliocosm' and *buddhakṣetra* are, as a rule, synonymous (cf. *Aṅguttara*, i. 228).

The chiliocosm did not satisfy the Buddhist imagination. The *Mahāvastu* (i. 122) and the *Mahāyānasūtras* consider that the number of chiliocosms, or 'fields of Buddha,' is infinite in every direction (e.g. *Lotus*, xi.; *SBE* xxi. 232), and there are quoted, by the dozen, names of these 'great universes' (e.g. *Karuṇāpuṇḍarīka*); and in the *Avataṁsaka* we get a systematic arrangement of these chiliocosms.

On whirlwinds rests the Fragrant Ocean, which carries an infinite number of world-germs (*lokabīja* [?]); from it there issue lotuses infinite in number—very far removed, indeed, from each other. From each of these lotuses is born a universe (great chiliocosm), above which (separated by whirlwinds) there are three, then five, and so on up to the twentieth tier, where there are 39 great chiliocosms. We are not told whether this development of a 'world-germ' is in the form of a *tranche* or of a fan, or whether it is to be understood as an inverted pyramid (1, 3², 5², . . . 30²). But, on the other hand, we learn that the universe in which we are, the *Sahalokadhātu*,[1] forms part of the thirteenth stage, and constitutes the 'field' of the Buddha Vairochana (see art. ADIBUDDHA, vol. i. p. 90ᵃ note ‖), and that, on the same level at the same stage, in the extreme west, is the blessed universe of the Buddha Amitābha, the *Sukhāvatī*, where a *kalpa* of our universe is equal to a day and a night (see art. BLEST, ABODE OF THE [Buddhist], vol. ii. p. 688ᵇ).[2]

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[1] See *Kathāvatthu*, iii. 12; Beal, *Catena*, p. 91; C. A. F. Rhys Davids, *Buddh. Psych.* p. 74 f.; *Saṁgītisutta* (*Dīgha*, xxxiii.), in Burnouf, *Lotus*, p. 809; *Aṅguttara*, v. 7, 318.

[2] See Beal, *Catena*, pp. 92, 104: Wassilieff, *Buddhismus*, 1860, p. 237 (261).

[3] See *A.K.V.* (Burn. 28^b), cited in Burnouf, *Lotus*, p. 513 (cf. Walleser, *Phil. Grundlage des älteren Buddhismus*, Heidelberg, 1904, p. 106). On the *hadayavatthu*, 'basis' or 'site,' of the *sensorium commune* (*manas*), see C. A. F. Rhys Davids, *op. cit.* p. 129, note; cf. p. 173 and index: *JPTS*, 1884, p. 28; *Visuddhimagga*, *JPTS*, 1891, p. 124, and Burnouf, *Introduction*, p. 569; the rôle of the heart in the ancient Hindu philosophy is well known (Böhtlingk-Roth, *s.v.* 'Dhātu,' p. 934^b).

[4] *Kathāvatthu*, viii. 8; cf. Warren, *Buddhism*, p. 178, l. 15, and see also *Saṁyutta*, iii. 53.

[5] The *Brāhmaṇas* admit the infinity of the world upwards and sideways (see *Pañchaviṁśabrāhmaṇa*, xviii. 6, 2, in Hopkins, 'Gods and Saints of the Great Brāhmaṇa,' *Trans. Connecticut Acad.* xv. 25, July 1909). The theory that the world is infinite across, and finite in upward and downward directions, is condemned in *Dīgha*, i. 23 (Rhys Davids, *Dialogues*, i. 36; see AGNOSTICISM [Buddhist], vol. i. p. 224^b, note). A tradition which was long in being attested (*Atthasālinī*, § 374, quoted in Burnouf, *Lotus*, p. 844, wanting in the 'Chapter of the Fours' of the *Aṅguttara*, as Rhys Davids remarks, *loc. cit.*) states that four things are infinite: space, the number of universes, the number of living beings, and the wisdom of a Buddha.

[6] *Lokadhātu*, masc. in *Mahāvastu*, i. 40, 7, and *Sikṣāsamuchchaya*, p. 246; fem. in Pāli, *Mahāvastu*, ii. 300, 16, *Karuṇāpuṇḍarīka*, p. 4, etc. The word *sukhāvatī*, 'the happy' (see BLEST, ABODE OF THE [Bud.], vol. ii. p. 638^b), must be understood as *sukhāvatī lokadhātu*, 'the happy world,' and not as *sukhāvatī bhūmi*, 'the happy earth or storey.'

[7] The Skr. forms in *Mahāvyutpatti*, § 153, *Bodhicharyāvatārapañjikā*, ad ii. 14; *sāhasraś chūḍiko lokadhātuḥ; dvisāhasro madhyamo . . .; trisāhasramahāsāhasro. . . .* There are variants in *Mahāvastu* and elsewhere (*trisāhasrā . . .*). See Lefmann, *Lalitavistara übersetzt*, Berlin, 1874, p. 208. *Chūḍika*, *chūlika* (Pāli-Prākrit *chūla*, *chūḷa*, 'small,' cf. Skr. *kṣulla*) is traced to *chūḍā*, 'top,' 'crest' (tuft left on the head after tonsure), but see *Saddharmapuṇḍarīka*, p. 327 (*kṣudrakalokadhātu*).

[1] The text says *arūpā*-heavens. This must be a mistake (see above, p. 136).

[2] *Shou-lun*, tr. in Beal, *Catena*, p. 103.

LITERATURE.—See preliminary note 3 on p. 130 f., and p. 131ᵃ, note 4, and works mentioned throughout the article. See also the tr. of the *Abhidhammasaṅgaha* by Shwe Zan Aung and C. A. F. Rhys Davids under the title *Compendium of Philosophy* (*PTS*, London, 1910), the tr. of *Dīgha*, ii., by T. W. and C. A. F. Rhys Davids, *Dialogues of the Buddha*, ii. (Oxford, 1910). Reference must also be made to Mañjughoṣahāsavajra's *Siddhanta*, i. fol. 223–248.

L. DE LA VALLÉE POUSSIN.

COSMOGONY AND COSMOLOGY (Celtic).

—We do not know the ancient Celtic ideas with respect to the origin of the world. According to Strabo (IV. iv. 4), the Druids, as well as others, said that the soul and the world were immortal, and that one day fire and water would prevail. On the other hand, the Celts of the Adriatic said to Alexander: 'We fear only one thing, and that is that the sky may fall on us' (Strabo, VII. iii. 8). This belief in the fall of the sky is seen frequently in the oaths of Irish epic poetry. In a note on the hymn of Ultan (verse 9) mention is made of the two pillars of the sky.

These confused and contradictory ideas do not enable us to re-construct Celtic cosmology. It would be dangerous, besides, to look for this cosmology in the Christian legends of the Irish Middle Ages, or in the so-called secrets of the bards of the Island of Britain, or in the oral traditions of Armorican Brittany; for the elements contained in these different sources are either foreign or modern in origin. See also art. CELTS, vol. iii. p. 298.

LITERATURE.—Roget de Belloguet, *Ethnogénie gauloise*, Paris, 1861–75, iii. 137; C. Jullian, *Histoire de la Gaule*, Paris, 1907, i. 360, ii. 126, 175; H. Gaidoz in *Zeitschrift für celtische Philologie*, 1897–1901, i. 27 f.

G. DOTTIN.

COSMOGONY AND COSMOLOGY

(Chinese).—Chinese theories of cosmogony and cosmology may be said to be of comparatively modern date. They profess, however, to be based on a system which claims an almost immemorial antiquity, *i.e.* the 8 trigrams, which are usually attributed to Fu-hsi (2852 B.C.), though somewhat contradictory accounts are given as to their ultimate origin. These figures were intended to represent the stalks of the milfoil (*Ptarmica sibirica*), which were employed by diviners in close association with the lines which were produced on the shell of the tortoise, as described in art. COMMUNION WITH THE DEAD (Chinese), vol. iii. p. 731ᵇ. The stalks were divided into longer and shorter lengths, and the order in which they were drawn and disposed, in varying combinations of long and short or 'strong' and 'weak' lines, was interpreted in accordance with the arbitrary methods which prevailed from time to time, but of which the details have not been handed down. It may, however, safely be assumed that the function of the trigrams was limited to questions of tribal or domestic interest, and that nothing of a theological or cosmological character was attached to them.

The trigrams were arranged in 8 groups thus:

☰ ☱ ☲ ☳ ☴ ☵ ☶ ☷

A new arrangement was invented by Si-peh (1231–1135 B.C.), during his two years' imprisonment at the hands of the ruler of the Yin dynasty, and it is probable that to him is also due the combination of the original 8 trigrams to form the 64 hexagrams which are the basis of the *Yi-king*, or Canon of Permutations, commonly known as the Book of Changes.

Si-peh, afterwards canonized as **Wên-wang** (= King Wên), appended to each of the hexagrams an explanatory outline, giving the general sense supposed to be conveyed by the figure, but his son Tan, better known as Chow-kung (Duke of Chow), added an analysis, showing how each line of the hexagram was to be interpreted so as to contribute to the general conclusion which his father had established. The deductions of King Wên, with the analyses of the Duke of Chow, form the text of the *Yi-king*. Throughout the 64 chapters of the original work there is nothing whatever of a cosmological character; the compilers were entirely occupied with political and personal matters, endeavouring to learn from the omens furnished by the stalks and their representative symbols the probable results of certain courses of conduct which were in contemplation. The harmless trifling, as it seemed to his jailers, with which the prisoner, Si-peh, employed his leisure, was in reality a means by which he was able to develop his revolutionary schemes without let or hindrance; none but himself knew the significance attaching to the harmless straws with which he amused himself; and when, in course of time, his liberty was restored, he was enabled to consummate his schemes with complete success.

A new element is, however, introduced in the 10 Appendixes to the *Yi-king* which bear the imprimatur of Confucius, though it seems probable that only the first and second are properly attributed to him. To Confucius it seemed inevitable that the thought which had been expended upon the hexagrams, by sages so eminent as Si-peh and his son, could not fail to be of permanent value, and that, though the political conditions which had first inspired their studies no longer existed, the lessons which they contributed might be applied with equal value to the troublous circumstances of his own times. Hence Confucius, in later life, devoted a great deal of attention to the study of the *Yi-king*, frankly acknowledging the difficulty he experienced in the interpretation of its cryptic phraseology, and in adapting its lessons to his own enlarged conception of the scope of the work. Later commentators, building upon the theory that the three lines of the early trigrams represent the three powers—Heaven, Earth, and Man—attempt to transfer the lessons of the figures from the smaller stage of human affairs to the larger theatre of universal Nature. In the Appendixes, therefore, we discover, in an ever-ascending scale, the application of the hexagrams to the constitution and course of Nature, the later chapters furnishing some of the material out of which Chu-hsi (Chucius, A.D. 1130–1200) developed his scheme of cosmogony and cosmology, which now represents modern Chinese philosophic thought on the subject.

A word of explanation may here be necessary in order to show the mechanism of the developed system of the *Yi-king*. Each trigram bears a distinctive name, as well as a local habitation or direction, together with a natural affinity, quality, etc. Thus the 6th group, as arranged by Si-peh, originally the first group according to the earlier system, consisting of 3 unbroken or 'strong' lines, is denominated *k'ien*, which means 'untiring,' 'strength,' etc., and represents Heaven, a sovereign, a father, etc. Its locality or direction is north-west; its affinity, ether; its quality, humidity, etc.

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[1] This expression seems to denote a great chiliocosm, but it is certain that its natural meaning should be the small universe, the *chakravāla* in which we live. *Saha* is an adjective; we find a fem. form *sahā* (*Mahāvyutpatti*, § 154, 21; *Divyāvadāna*, p. 293, 19; *Mahāvastu*, ii. 379, 21; *Laṅkāvatāra*, in Burnouf, *Introduction*, p. 596; *Karuṇāpuṇḍarika*, p. 119; Wilson, ii. 82; and probably *Rājataraṅgiṇī*, i. 172, where A. Stein reads *mahī*), and more rarely the masc. form *saha* (Triglotte, § 46, and *sahalokanātha*, in *Mahāvastu*, ii. 385). This expression, which has been translated 'enduring,' 'suffering,' or 'supporting' (from root *sah*), is not clear. The Tibetan *mi mjed* or *mjed* (see Jäschke, *Tib. Dict.*, London, 1881, p. 174) does not shed any light on the question, and the designation of Brahmā as *Sahāmpati* (*Sahāpati*) remains obscure (Burnouf, *Introduction*, p. 594; Beal, *Catena*, p. 16; Eitel, *Handbook*, p. 134).

[2] The present sources are Rémusat, *Mélanges posthumes*, p. 96; Beal, *Catena*, p. 121. The two authors differ on many points; *e.g.* Beal regards *Sahā* as the name of the whole thirteenth stage. Between the *Sahā* (centre of this stage) and the *Sukhāvatī* (regarded not as a chiliocosm but as a privileged *chakravāla*, with no hell, and no cosmic mountains), there are 10,000,000,000 universes. The original source is the *Avataṁsaka*—a word which denotes a part of the Chinese canon of the Great Vehicle (Nanjio, *Catal.*, 1883, p. 32 ff., on which see Tāranātha, p. 63, and Wassilieff, *Buddhismus*, esp. p. 157 [171] f.).

The hexagrams are formed by the combination of 2 trigrams, and also have distinctive names. Each line bears a certain relation to the other lines; thus the first or bottom line in the lower trigram is related to the first line of the upper trigram, *i.e.* to the 4th line of the hexagram. The position of the various lines is a most important consideration—sometimes a 'strong' line is found in a 'weak' place, and *vice versa*.

An illustration from Legge's *Yi-king* (*SBE*, xvi. 71) may serve to indicate the method of interpretation. The 7th hexagram, known as *sze*, is written thus: ䷆, consisting of the 2 trigrams *k'ăn* ☵, representing water, and *kw'un* ☷, representing earth, suggesting, by the combination, waters collected on the earth, or, in the language of the diviner, multitudes of people mustering for purposes of defence or attack. The 'strong' or undivided line occupies the most important place in the *inner* or lower trigram, *i.e.* the middle, second only to the middle place in the *outer*, or upper, trigram, which is the paramount position in the whole figure. The 'strong' line, therefore, occupying a secondary position, must stand for the leader of the host; were he to occupy the highest position, *i.e.* the 5th line from the bottom—the middle line of the upper trigram—he would represent the sovereign. These, of course, are perfectly arbitrary preconceptions.

The Duke of Chow thus interprets the figure: 'The first line (reckoning from below), divided, shows the host going forth according to the rules (for such a movement). If these (rules) be not good, there will be evil.' Legge adds: 'The line is divided, a weak line in a strong place, not correct; this justifies the caution which follows.'

'The second line, undivided, shows (the leader) in the midst of the hosts. There will be good fortune and no error. The king has thrice conveyed to him his charge.'

'The third line, divided, shows how the hosts may possibly have many commanders; (in such a case) there will be evil.' Legge explains: 'The third place is odd, and should be occupied by a strong line, instead of which we have a weak line in it. But it is at the top of the lower trigram, and its subject should be in office or activity. There is suggested the idea that its subject has vaulted over the second line, and wishes to share in the command and honour of him who has been appointed to be commander-in-chief. The lesson of the previous line is made of none effect. We have a divided authority in the expedition. The result can only be evil.'

'The fourth line, divided, shows the hosts in retreat: there is no error.' Legge comments thus: 'The line is also weak, and victory cannot be expected; but in the fourth place a weak line is in its correct position, and its subject will do what is right in his circumstances.' He will retreat, and a retreat is for him the part of wisdom.'

'The fifth line, divided, shows birds in the fields, which it is advantageous to seize (and destroy). There will be no error. If the oldest son lead the host, and younger men be (also) in command, however firm and correct he may be, there will be evil.' Legge interprets the Duke's findings thus: 'We have an intimation [in this passage] . . . that only defensive war, or war waged by the rightful authority to put down rebellion and lawlessness, is right. "The birds in the fields" are emblematic of plunderers and invaders, whom it will be well to destroy. The fifth line symbolizes the chief authority, but here he is weak or humble, and has given all power and authority to execute judgment into the hands of the commander-in-chief, who is the oldest son; and in the subject of line 3 we have an example of the younger men who would cause evil if allowed to share his power.'

'The topmost line, divided, shows the great ruler delivering his charges (to the men who have distinguished themselves), appointing some to be rulers of States, and others to be chiefs of clans. But small men should not be employed (in such positions).' Legge thus comments: 'The action of the hexagram has been gone through. The expedition has been conducted to a successful end. The enemy has been subdued. His territories are at the disposal of the conqueror. The commander-in-chief has done his part well. His sovereign, "the great ruler," comes upon the scene, and rewards the officers who have been conspicuous by their bravery and skill, conferring on them rank and lands. But he is warned to have respect in doing so to their moral character. Small men, of ordinary or less than ordinary character, may be rewarded with riches and certain honours; but land and the welfare of its population should not be given into the hands of any who are not equal to the responsibility of such a trust.'

To turn now to the main deduction of King Wên, of which the above is the detailed explanation. We find the lessons of the hexagram thus expressed: '*Sze* indicates how (in the age which it supposes), with firmness and correctness and (a leader of) age and experience, there will be no error.'

It will be observed, from this example, how the character of the lines (whether divided or undivided), their place in the hexagram (whether odd or even, *e.g.* 1, 3, 5; or 2, 4, 6), and their mutual relation to each other (2 corresponding to 5, etc.) are all of great importance in the exposition of the lessons they are supposed to convey. The mutual relation of the 2 trigrams in each hexagram is also a matter of importance.

This specimen will serve to show how little there is of any cosmological element in the original Book of Changes, and how far the modern commentators have wandered from the intention of the compiler and his earliest expositor; in fact, it was only by an arbitrary forcing of the primitive modes of divination, and the introduction of entirely new ideas in the Appendixes, that Chucius succeeded in building up the system which is attributed to him, and which has only the slightest affinity with the diagrams of King Wên. A rough parallel might be established between the diagrams and our modern playing cards, in which the calendar may be said to be represented, though with no cosmological intention, the 4 suits representing the 4 seasons; the 13 cards in each suit = the 13 sidereal months; the 52 cards = the 52 weeks of the year; the 364 pips (including the value of the 'coat' cards) = the days of the year, etc.; and, as the cards are now employed by pretended 'fortune-tellers' as a key to the secrets of human existence, so the hexagrams of King Wên came to be applied, in course of time, to issues much larger than were ever contemplated by their inventor.

The chief exponent of the modern system was Chucius, whose name is pre-eminent amongst the philosophers of the Sung school of the 11th and 12th centuries in China. Confucius and Mencius were practical philosophers, but Chucius was not content to accept the fact of Heaven and Earth, which had been sufficient for the great teachers who preceded him; he endeavoured to establish a systematic theory of the origin of all things, finding in the *Yi-king*, as he supposed, a groundwork for his researches. He was further aided in his speculations by Taoistic and Buddhistic suggestions, as well as by other philosophic concepts which may well have reached China by that time, and which to an ardent and omnivorous student would prove attractive. It is not unlikely that he was familiar with Persian and early Christian ideas propagated by the Nestorian teachers in the centuries preceding him.

It is very important to bear in mind that the earliest conception of the Chinese regarding the universe was a theological one, while the later system of Chucius is philosophical; and it is owing to this fact that Chucius found himself involved in frequent difficulties in the endeavour to harmonize the two. The ancient or theological concept takes its starting-point from Shang-ti, or Heaven; the Taoistic or philosophic theory goes no further back than the 'Great Extreme'; but Chucius, though professedly no theologian, appears unable to eliminate from his system some traces of the ancient conviction that behind all phenomena there is a power, variously described as Heaven, the 'Controller,' the 'Great Framer' (or 'Potter'), etc., while he shrank from any suggestion of anthropomorphism, and disclaimed the view that that power actively interfered in the affairs of men.

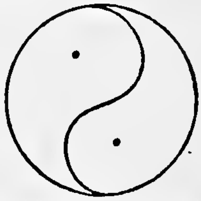
As a matter of fact, the theories of Chucius are not intended to account for ultimate beginnings; his conception of the present world is that it is but one of a long series of similar existences which have flourished in turn, and have been corrupted, each disappearing eventually from view and giving place to a new world. He makes no attempt to explain how the primal element came into being, but finds his starting-point in the theory of the existence of a Natural Law which he denominates *Li* (pronounced *Lee*), and a vital essence which he calls *K'i* (pronounced *Chee*). He does not inquire wherein this Law resides, or where this vital 'breath' is derived from. The theologian may contend for the recognition of a Divine creator or framer, but Chucius, though he does not traverse the argument, declines to discuss the subject. In inquiring, therefore, into the evolution of this present world, he finds its material basis in *K'i* (vapour, breath, air, etc.), and its active principle in *Li*—both eternal in their nature, as existing before the clock of time began to strike, yet admitting of a priority of order in the case of *Li*. The alternate action and inaction of *Li*, in the sphere of *K'i*, produced the positive and negative forms, *Yang* and *Yin*, variously represented as Light and Darkness, Heaven and Earth, Male and Female, etc., whose vicissitudes constitute the *Tao*, or Course of Nature, as reflected in the 4 seasons, the alternations of day and night, etc. The *Yang* and *Yin* contain the 'Five elements' in embryo, viz. metal, wood, water, fire, and earth, of which water and fire are regarded as the simplest forms. Each element possesses a *Yang* and a *Yin* quality, and all are pervaded by *Li*. As a result of the interaction of these two 'forms'—the *Yang* and the *Yin*, which are in constant motion—a certain amount of 'sediment' is precipitated to the centre of the whirling mass and becomes Earth, whilst the more subtle excreta are flung upwards to the outer ring of the circle, and become Heaven. Earth remains motionless in the centre, whilst the Heavens revolve continually, as the movements of the heavenly bodies serve to show.

The myriad creatures were produced by the spontaneous coagulation of the finer essences of the five elements in the *Yang-Yin*, forming a hermaphroditic being or pair, which in course of time separated and gave birth to the male and female species which now constitute the human race.

It will be seen at a glance how far removed these theories are from the system of divination attributed to King Wên, and it seems inevitable that they represent an interpretation of that system entirely alien to the purpose which inspired its first exponents. From Chucius' own words, we are led to conclude that the study of the *Yi* had made little progress during the centuries which had elapsed from the days of Confucius until his own time. It seems probable that the later Appendixes, popularly ascribed to the great 'Master' himself, 'belong to a period long posterior, and they seem to reflect opinions which began to be current only in Chucius' days. Philosophers such as *Shao-yung* (A.D. 1011–1077), of whom Chucius says, 'From the time of Confucius no one understood this (*i.e.* the relation between the Great Extreme, the 8 diagrams, etc.) until Shao explained it,' and Chow Tun-i (A.D. 1017–1073), to whom is attributed the circular diagram of the Great Extreme, apparently made use of the *Yi* as a vehicle of Taoistic ideas, and applied to the 'strong' and 'weak' lines of King Wên the system of *Yang* and *Yin*, which nowhere appears in the text of the *Yi*, but which is suggested by the words of Lao-tze in the *Tao-Tê-King*):

> 'Tao produced unity; unity produced duality: duality produced trinity; and trinity produced the innumerable objects; the innumerable objects, carrying the feminine or shadow principle on the one side, and the masculine or sunlight principle on the other, created a just harmony by their respective clashes of primitive impulse or ether' (Parker's tr.).

It may be assumed, therefore, that the Chinese cosmogony is of comparatively recent origin, and that the ancients were content to accept the fact of the universe without abstruse theorizing as to its origin and method. The Sung philosophers adopted the trilinear figures of the *Yi*, but devised a new diagram of what they called the 'Great Extreme,' viz. a circle intended to represent the ultimate principle *Li*, which, in their system, indicates the limit of philosophical discussion. This circle was subdivided thus:



to illustrate the interaction and constant gyrations of the *Yang* and *Yin*, i.e. the primal essence, or *K'i* in its 2 forms, the motive power in which is *Li*. Another circle represents the *K'i* as divided into its constituent elements, *i.e.* the five active principles—water, fire, wood, metal, and earth. Sometimes the four seasons are represented.

From these we may learn that, according to Chucius, the world came into existence as a result of the operation of *Li*, or 'Natural Law,' setting in motion the *K'i*, or 'vital essence,' which, by the interaction of its two forms, *Yang* and *Yin*, containing the 5 elements, threw off, in its perpetual revolutions, the excreta which coagulated respectively into Heaven, on the outward edge, and Earth, in the centre; and that the vicissitudes of *Yang* and *Yin* account for the regular succession of day and night, the alternate waxing and waning of the same being the cause of the four seasons; and that, when the great cycle, calculated as occupying a *kalpa*, or 129,600 years, is accomplished through the exhaustion of the *Yang* element in man, as exhibited by moral declension and universal corruption, the whole system is resolved into its constituent elements, and a new heaven and earth are called into being.

Man's place in Nature.—As to the place which man occupies in this system, since man is compounded of the five elements constituting the *K'i*, or vital essence, in which the *Li* operates, he is described as a microcosm—a world in miniature—from which it follows that every man has within him a 'spark of the Divine.' In some men the *Yang* predominates; in others the *Yin*. Of the former are the Sages, the great men of past and present times; the latter are represented by the 'mean' men, the dull, the criminal, etc. As in the case of Nature, so man has his seasons of spring, summer, etc., and his days and nights, and, like the world, comes to an end by the exhaustion of the *K'i*, or vital breath. His great business, therefore, is to frame and fashion his life so as to live in conformity with the *Tao*, or observed order of the universe. 'No contrariety' must be his motto. By so doing he may attain in time the proud distinction of being an associate of Heaven and

Earth. As to his future, neither Lao-tze, Confucius, nor Chucius has anything to say; probably, from the philosophical point of view, death to them, though they would not discuss it, meant a return to the original chaos, like the universe at the end of its cycle of existence; or, to express it in the polite but equivocal phrase of ancient and modern days, a 'return to Heaven.'

The philosophic idea was, however, too lofty and illusive for common acceptance, and, during the Sung dynasty, the tradition of a 'first man' was evolved, ascribing the ancestry of the human race to a certain P'an-ku, of whom it is stated in the *Lu-she* (Mayers' tr.):

> 'When the great first principle had given birth to the two primary forms, and these had produced the four secondary figures, the latter underwent transformations and evolutions, whence the natural objects depending from their respective influences came abundantly into being. The first who came forth to rule the world was named *P'an-ku*, and he was also called the "Undeveloped and Unenlightened" (*i.e.* the Embryo).'

This idea is now almost universally accepted by the mass of the unlearned in China, and by not a few of the scholarly class, being, as it were, a sort of concretion of the indefinite theories of the Chucian philosophers as to the origin of man.

The place occupied by spiritual beings.—Though Confucius and Chucius (16 centuries later) were unwilling to enter into the question of spiritual existences, and though the latter expressly declared the difficulties involved in such a theory, the fact that the earliest records refer so frequently to the existence of spirits made it necessary that a place should be found for them in the Chinese philosophy, and, accordingly, the *Kuei-shen*, or spirits, were adopted as representing, so to speak, in personal form, the activities at work in the changing phenomena of Nature; but the ancient doctrine that the spirits are the ministers of God, carrying out His behests, on the analogy of the officers of State fulfilling the decrees of the sovereign, survives, in a somewhat debased form, in the popular opinion which invests the earth and air with a numberless host of good and evil spirits or demons.

The place of God.—In the earliest days of which we possess any record, Shang-ti, or God, appears to have occupied a chief place in the mind of China's rulers, but at the beginning of the Chow dynasty (12th cent. B.C.) we find the terms 'Heaven' and 'Earth' coming into prominence, representing the operations of God in Nature and Providence, and, as a consequence, Shang-ti is removed to a greater distance than that intimate relation in which he seems to have stood *vis-à-vis* his votaries in the earlier days. Later developments contributed towards the increasing of this distance, and the attitude of Confucius towards metaphysical and transcendental questions tended to widen the chasm. Chucius appears to have relegated God to a position of infinite remoteness and unknowableness, though he did not deny the possibility of there being an ultimate ruling power, of whose existence individual students must satisfy themselves; and he refers to the 'Great Framer,' the 'Root of the Great Extreme,' the 'Heavenly decree which set in motion the primal elements,' etc. His conviction seems to be that God, or the 'Infinite,' invested the *K'i*, or vital essence, with His own *Li*, or Law, and then allowed the creation to develop itself spontaneously, He Himself taking no further active share in the affairs of Nature or of human life. Such a contention, indeed, was directly contrary to the earlier beliefs, and led Chucius, unwillingly, into conflict with the received opinions. He, however, steadily refused to discuss the matter, and insisted that every man should be 'fully persuaded in his own mind' and make his own investigations. Here again the agnosticism of Chucius was unable to overcome the immemorial persuasion of his fellow-countrymen, that the 'Supreme Ruler' interferes actively in the affairs of the nation, and sends forth His agents, including spirits and sages, to fulfil His behests. Hence it happens that Shang-ti is still worshipped officially by the Emperors of China, and Heaven is invoked by the mass of the people, whilst the spirits are solicited to exert their influence on behalf of their petitioners. The theological concept has thus survived the philosophical, and, by a strange inconsistency, the materialism of Confucius and Chucius, as represented by the modern Chinese literate, is exhibited in a country which, above all others, is remarkable for its active and almost frenzied addiction to the propitiation of spirits and demons.

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W. GILBERT WALSHE.

COSMOGONY AND COSMOLOGY (Christian).—**I. Early.**—The early Christians were not seriously perplexed by questions of cosmogony. They had come into a heritage, whereby they had grown up into the current Palestinian-Jewish ideas of the origin and constitution of the world. Moreover, they looked out upon the world and the whole realm of Nature from the purely religious standpoint. 'In the beginning God' (Gn 1^1) was the primary article of their faith. It was Jahweh, the God of Israel, who had 'measured the waters in the hollow of his hand, and meted out heaven with the span, and comprehended the dust of the earth in a measure, and weighed the mountains in scales, and the hills in a balance. . . . It is he that sitteth upon the circle of the earth . . . that stretcheth out the heavens as a curtain, and spreadeth them out as a tent to dwell in. . . . I am Jahweh, and there is none else. . . . I form the light, and create darkness: I make peace, and create evil. I, Jahweh, do all these things' (Is 40^{12-22} 45^{5-7}). Psalms 8 and 104 express the same idea of the sole, beneficent creatorship of God, and in Psalms 33 and 148 creation by the *spoken word* is confidently expressed. The Book of Job is likewise pervaded by this belief, and the same is true of Pr 8^{22-31}. These seem to have been the primary sources from which the early Christians drew their conception of the material cosmos and God's relation to it. This simple religious view found free expression in their prayers: 'O Lord, thou that didst make the heaven and the earth and the sea, and all that in them is' (Ac 4^{24}). And Jesus had expressed His faith in the same direct and simple way. To Him God was 'Lord of heaven and earth' (Mt 11^{25}), who 'maketh his sun to rise on the evil and the good, and sendeth rain on the just and the unjust' (Mt 5^{45}). His heavenly Father also feeds the birds of the heavens, and clothes the grass of the fields (Mt $6^{26ff.}$). The disciples, like their Master, were absorbed in the thought of the loving care of God, and His gracious provision for all His creatures. 'In him,' says St. Paul, 'we live, and move, and have our being' (Ac 17^{28}).

But the profound and enduring impression which Jesus made upon His followers soon constrained them to associate Him with the Father in the work of creation. It was He who had brought redemption from sin, and given them a glad new sense of sonship with God. But Lordship in the spiritual world must and did ultimately involve equal Lordship in the material world and in the whole realm of the Divine activity. This idea was early expressed by St. Paul, who says: 'To us there is one God, the Father, of whom are all things, and we unto him; and one Lord, Jesus

Christ, through whom are all things, and we through him' (1 Co 8^{6}); 'for in him [the Son] were all things created . . . things visible and things invisible . . . and he is before all things, and in him all things consist' (Col $1^{16f.}$; cf. He $1^{1f.}$). 'By faith we understand,' says the author of the Ep. to the Hebrews, 'that the worlds have been framed by the word (ῥήματι) of God' (He 11^{3}). 'In the beginning was the Logos,' says St. John, 'and the Logos was with God, and the Logos was God . . . all things were made by him' (Jn 1^{1-3}; cf. Rev 4^{11}). The specific use of the word Logos by the Fourth Evangelist completed and confirmed a development which had been in progress for several decades, by which Jesus as the Son was definitely classed with God the Father, and associated with Him in the creation and government of both the visible and the invisible world. It also tended to reconcile and adjust the Christian faith to the late Jewish development of the concept 'wisdom' (Pr 8, Sir 24, Wis 8, and the like) and the current Hellenistic idea of the Logos (Book of Wisdom, Philo Judæus, and the like). Christian cosmology henceforth was definitely related to the Person of Christ.

But the tragic fate which overtook Jesus, and His own utterances concerning the machinations of the 'prince of this world,' together with His teachings regarding His 'return,' and the 'day of judgment,' and the 'last things,' made a deep and solemn impression upon His disciples. Everything seemed to constrain them to believe in the presence of an opposing Satanic power in the universe (Ac 5, 8, 13; Rev 2^{13} and oft.). St. Paul speaks of the 'lawless one' . . . whose 'coming is according to the working of Satan' (2 Th $2^{8f.}$); he declares that the 'whole creation groaneth and travaileth in pain together until now' (Ro 8^{22}), and that 'our wrestling is not against flesh and blood, but against the principalities, against the powers, against the world-rulers of this darkness, against the spiritual hosts of wickedness in the heavenly places' (Eph 6^{12}). The Book of Revelation attempts to describe this great world-drama, this duel between good and evil, and the final triumph of the 'Lamb that hath been slain.' In this more or less incoherent and dualistic view of things, we have the outcropping of Babylonian and Persian ideas, which for several generations had been occupying a large place in Jewish thought (see *Test. Twelve Patriarchs*, *Bk. of Jubilees*, *Bk. of Enoch*, *Assump. of Moses*; cf. Mt $4^{1f.}$ $12^{24f.}$ 13^{39}, Jn 8^{44} 12^{31}, Ac 13^{10}, 2 Co 11^{3}, Eph 2^{2} 6^{16}, Ja 4^{7}, 1 P 5^{6}, He 2^{14}, 1 Jn 3^{8}, and oft.). Christian cosmology, accordingly, becomes profoundly affected by the resurgence of Bab.-Pers.-Jewish ideas, and takes on a dualistic cast.

The lapse into 'sins of the flesh' on the part of professing Christians, as well as the appalling moral corruption of environing paganism, gradually led to the conviction that sin has its primal seat in 'the flesh.' Here, again, we have the outcropping of ideas already rife in current Judaism and paganism. St. Paul's teaching was more or less infected by the half-assumption of the physical basis of sin, and he exhibits a distinct tendency toward asceticism (Gal $5^{16ff.}$, 1 Co $3^{1ff.}$ $7^{1ff.}$, Ro $7^{14ff.}$). The whole trend of thought within the Christian Church gradually became reactionary and ascetic. Some began to withdraw from marital and social relations and to 'flee from the world.' Asceticism entered as a constituent element into Christian ethics, and soon coloured the whole view of things, giving its character to contemporary cosmology. If evil is inherent in matter, or, rather, if matter is inherently evil, the question of the creation and government of the world by an all-wise and beneficent God becomes seriously complicated. The Christians were, as a rule, inclined to emphasize the Genesis story of the 'Creation' and 'Fall,' and thereby to shield God from complicity in the introduction of evil into the universe. But there were other and diverse accounts of the origin of the cosmos and the entrance of evil into it.

The Gnostics were not only the 'first Christian theologians,' but the first cosmogonists and cosmologists. Indeed, their primary concern was to discover and develop a theory of the cosmos which should shield the Supreme Being from all complicity in, or responsibility for, its creation, which seemed to them to involve also the production of evil. They, accordingly, assumed that the material cosmos arose through the more or less blind and perverse activity of the Demiurge, who was far removed from the Supreme God and the heavenly Pleroma. Although man was created by the Demiurge, he yet received, through 'Sophia,' sparks from the Divine nature, and is struggling to get free from his material bondage. Ascetic discipline is, accordingly, one of the means by which the Gnostic is to overcome 'sin in the flesh,' and secure salvation. Another means is the rational revelation which the Logos made to the world when He became manifest in the Christ. The 'prince of this world' must be overthrown by the Supreme God, who has sent His Son to rescue men from their bondage to evil (= ὕλη). In all these Gnostic views we have but the exaggeration or perversion of ideas that were then present in current Christian thought, and which had come as a heritage from Judaism and environing paganism. In other words, Gnosticism (*q.v.*) was but an aberrant form of the Christian faith, and its crude and fantastic cosmologies were, after all, only abortive efforts to solve the riddle of the universe in a supposedly Christian fashion. The cosmic views of the Gnostics persisted in modified forms in Neo-Platonism (*q.v.*) and in Manichæism (*q.v.*).

The Apologists, contemporaries of the Gnostics, fell back, as a rule, upon the simple 'Creation' and 'Fall' stories of Genesis, and thereby escaped the worst excesses. They also made ample use of the Platonic-Stoic-Philonian Logos idea, and emphasized the mediatorship of the Logos in the work of creation. They were likewise surcharged with a belief in demons and opposing Satanic powers, but they looked forward to the destruction of the material cosmos and the overthrow of all hostile forces. Justin Martyr and Athenagoras speak of God as having fashioned the world out of formless material (ὕλη), but Theophilus declares that God created all things *ex nihilo* (ἐξ οὐκ ὄντων). Each based his assumption upon Gn $1^{1f.}$ $2^{4f.}$ (Justin, *Apol.* i. 10, 20, 59, 67; Athenag. *Apol. for Christ.* 15; Theophilus, *Autol.* i. 6, 7, 10, ii. 4, 6, 10; cf. Tatian, *Addr. to Greeks*, 5 and 12; Aristides, *Apol.* 1 and 4). The Apologists, as a rule, thought of evil as inherent in matter, and accordingly were inclined towards asceticism; but they preserved, to a degree, the simpler religious view of Apostolic times, which they derived mainly from the OT.

Irenæus and Tertullian, Clem. Alex., Origen, and Hippolytus reject the Gnostic theory of the creation of the world by the Demiurge, and emphasize the function of the Logos-Son in the whole realm of the Divine activity. The NT writings are now quoted as authoritative Scripture, but the OT is also heavily drawn upon to explain God's relation to the cosmos. But, as was to be expected, these men were 'children of their own times,' although seeking to pass on a heritage. Some of the earlier crudities were retained, especially the belief in evil as somehow inherent in material things. With some slight aberrations, the Church Fathers of the 3rd cent. were true to the unformulated cosmology of the OT and NT, coloured by the speculations of the Apologists

(Iren. *c. Hær.* I. iii. 6, x. 1 f., xxii. 1, II. x. and xi., V. xviii.; Tert. *adv. Herm.* 29–34 and 45, *adv. Prax.* 19, *adv. Marc.* i. 15 and 16; Clem. Alex. *Str.* vi. 16; Origen, *de Prin.*, Præf., I. ii., II. i. iii. ix., III. v., *c. Cels.* vi. 49–61, *Com. in Joh.* i. 17 and 22; Hippol. *Phil.* i. 1 f., *c. Noet.* 9–14; cf. Arnob. *adv. Gent.* ii. 58; Lactant. *Div. Inst.* ii. 10, vii. 5; *Symb. Apostol.*).

The Nicene Fathers make no distinct advance upon the cosmology of their predecessors. Athanasius refutes the heathen views of the origin and constitution of the universe (*c. Gent.* 6, 7, 29, 35–40), and emphasizes the co-operation of the Son in the work of creation (*c. Arianos*, i. 22, 29, ii. 21). Eusebius, in his *Præp. Evang.*, describes the cosmologies of the Phœnicians, Egyptians, and Greeks (i. 6–11), and later expands the Creation-story of the Hebrews, quoting, in confirmation of his own views, from Philo, Origen, Dionysius Alex., Maximus, Plato, and others (vii. 10–22, viii. 13 f., xi. 29–38, xiv. 23). Plato he assumes to have derived his knowledge of the creation and constitution of the universe from Moses. Eusebius then sets forth the teaching of the Stoics and Neo-Platonists by extended quotations, testing always by the Genesis story. The standard exposition of Gn 1 and 2 meets us in Basil's *Hexaemeron*. But the treatment here is homiletical and fervently religious. In this we are reminded of the early Christian view of things (NT; Clem. Rom. 20 and 33; Herm. *Past.* Vis. i. 3, 4, iii. 4, 1; *Didache*, 3 and 10).

Augustine has only incidental allusions to cosmology, but is chiefly interested in defending the Creator from complicity in the origin of evil. This he does by assuming that sin has its principal seat in the will. Rebellion against God on the part of both angels and men was the beginning of sin and the cause of 'all our woes, with loss of Eden' (*Conf.* vii. 5–7, 9, 15–20, xii. 7, 8, 12, 15–29, *de Civ. Dei*, xi. 4, 6–23, xii. 10–15). The eschatological element, which was so prominent in Apostolic times, has practically disappeared in Augustine. It began to wane at the opening of the 2nd cent., and diminished as the Church became established in the Empire and set about to conquer the world. In other respects the cosmological elements remain in about the same proportions.

The picture which the early Christians made for themselves of the cosmos and its related parts is not easily portrayed. The earth is, of course, central in their universe, and is surrounded and sustained from beneath by the chaotic watery abyss. Above is the firmament, which supports the heavens as a fixed vault, furnishing a path for the sun and all the planets. Beyond and above the firmament are the fixed stars, and all the hosts of heaven. The waters above the firmament are separated by it from the waters beneath, and serve as a fountain to refresh the earth with timely showers. Sheol, or Hades, was placed beneath the earth, and served as the prison-house, or waiting-place, for departed spirits. The cosmos as a whole was conceived as having been created for the sake of man and the heavenly intelligences, and as ruled over in wisdom and righteousness. It reveals the glory of God, and interprets His majesty and eternal Divinity.

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E. K. MITCHELL.

2. Mediæval and modern.—In the period from the fall of the Roman Empire to the 10th cent. there was little thought upon these subjects. The leaders of the Church were content to follow the teachings of the Fathers, and Augustine's interpretation of the formation of the world was accepted without question. The first one to depart from the accepted belief, or to try to explain it in a philosophical way, was John Scotus Erigena. In his study of the writings of Dionysius he became acquainted with Neo-Platonic ideas, and he tried to apply these to the Biblical account of Creation. He departed from the views of the Fathers by bringing in the theory that all things emanate from God. His views are expressed in his book entitled *Concerning the Division of Nature*, including under 'Nature' the sum-total of existence. Nature in this sense is divided into four species: that which creates and is not created; that which is created and creates; that which is created and does not create; that which neither creates nor is created. The first of these—that which creates and is not created—is God as the essence, source, and substance of all things, the one Being who truly exists. Erigena's view is pantheistic, in that he teaches that God created the world out of His own essence. He held to an all-including unity because God is all. It was easy for him to reconcile his apparent pantheism with the teaching of the Church, by saying that the Divine essence was the nothing out of which the world was created.

Through the Middle Ages the Schoolmen gave little attention to the subject of Creation. They were content to accept the views which had been handed down to them, and those who failed to do this were sure to come into conflict with the Church authorities. It was agreed that the universe came into being and was sustained and governed by the Divine will. Whether the six days of Creation were days of twenty-four hours each was open to some discussion; but two points must be agreed to by the orthodox, viz. that the universe was created out of nothing, and that it was not from eternity, but had a beginning in time. The most profound thinker on this subject in the mediæval period was Anselm of Canterbury, who modified the traditional views by the introduction of Platonic ideas. He explains (*Monolog.* ix.) the meaning of the expression *ex nihilo* by saying that there is no way by which anything can be made by another unless it previously exists in the mind of the one making it. Before creation things existed eternally, from God and in God, as ideas. They did not exist as individuals, but in the sense that God foresaw and predestined that they would be made. They were in the Divine mind as an example, similitude, or rule of what was to be made. Before the making of the universe it was in the thought of the Supreme Being, but no material existed out of which it was to be made. Yet it was not nothing in its relation to the reason of the One making. By reasoning in this way Anselm is able to reconcile his philosophical views with the accepted interpretation of the account given in Genesis. There is one passage (*Cur Deus Homo*, i. 18) in which he implies that perhaps the six days of Creation were different from the days with which we are acquainted. Thomas Aquinas discusses the subject at considerable length, but adds little to the current views. He accepts the Biblical cosmology, admitting that there is room for a difference of opinion about the six days. Like Albertus Magnus, he teaches that Creation was a miracle which cannot be comprehended by the natural reason. He believed that it was not possible to demonstrate that matter was not eternal, deprecating the efforts of other men to make the temporal character of the material universe a matter that could be proven.

He taught that it was an article of faith to believe that the world was created in time.

Contemporary with the Schoolmen were the various heretical sects, differing in some respects from the orthodox in their views of the creation and government of the world. The most divergent from the commonly accepted views were the dualistic sects, which at the same time claimed to be Christian. They went by various names, such as Cathari, Albigenses, and so on. They seem to have gained their heretical views from contact with the religions of the East, where dualism was very common at the time. In general they held that there were two principles, or spirits, or creators, which had to do with the making of the universe visible and invisible. These two were the good and the evil, and both were from eternity, though some held that the evil spirit was originally good and had fallen from his first estate. The evil spirit was the author of the OT, and the maker of all visible Nature. He had created man as a physical being, and was the cause of all natural phenomena and all disorders in Nature. The good spirit was the author of the NT. He was also the creator of the human soul, which had been captured and imprisoned by the evil spirit.

In the later Middle Ages there arose various schools of Mystics. Some of these were heretical and frankly pantheistic. Others, like Master Eckhart, considered themselves orthodox Christians, but were unable to escape the suspicion of pantheism. Eckhart was in agreement with Aquinas in his belief that there existed from eternity a world of ideas distinct from the world of creatures. He explained what seemed to his contemporaries to be pantheism, by saying that creatures are made in time and out of nothing, and that they existed from eternity in God in the same sense that a work of art exists in the mind of the artist before it takes material form. The existence of the creation from all time was in the Divine reason. God exists in created visible objects as their essence. The external world is but the reflexion of the innermost essence of God.

The modern Roman Catholic Church holds to the teaching of Aquinas, but allows a difference of opinion on unimportant points. What a Roman Catholic must believe to-day in regard to cosmology and cosmogony is defined by the Vatican Decrees. The Council declared against the statement that matter alone exists, and in opposition to the view that the substance and essence of God and of all things are one and the same; also in opposition to the view that finite things, both corporeal and spiritual, or at least spiritual, have emanated from the Divine substance, or that the Divine essence by the manifestation and evolution of itself became all things, or that God is universal or indefinite Being, which, by determining itself, constitutes the universality of things. The positive statement by the Council was that God from the very beginning of time produced out of nothing the world and all things both spiritual and corporeal.

The Protestant position, as given in the earlier creeds, is merely a paraphrase of the cosmology found in Genesis. The Westminster Confession states: 'It pleased God in the beginning to make or create out of nothing the world and all things therein in the space of six days' (iv. 1). The Belgic Confession is more explicit: 'We believe that the Father by the Word created of nothing the heavens, the earth, and all creatures, as it seemed good unto Him, giving unto every creature its being, shape, forms, and several offices to serve its creator.' 'We believe that He doth also uphold and govern them by His infinite power for the service of mankind to the end that man may serve His God' (Art. xii.).

There is, of course, no authoritative statement for Protestantism relating to Christian cosmology and cosmogony. With the freedom of investigation which characterizes modern Protestantism, there are many divergent views. Some still hold to the statements of the older creeds, and believe that the conclusions of science have nothing to do with religion. The extreme holders of this position maintain that the world was made in six days of twenty-four hours each, but this view has a decreasing number of adherents. Others believe that the account of Creation given in Genesis is strictly scientific, and that the statements there found correspond in a minute degree to the facts of geology. Others consider that the account in Genesis agrees with the facts only in a general way. Others regard the account as a myth or legend corresponding to the Creation stories in Assyrian and Babylonian literature. The only points upon which modern Protestants agree are that God is the source of the universe; that it came into being as a result of the free exercise of His will; and that it is continually under His care and control.

See also art. CREATION.

LITERATURE.—Aquinas, *Sum. Theol.*; T. Harper, *The Metaphysics of the School*, 1879; art. 'Création,' in *Dict. de Théol. Cath.* iii. 2079-2093. See also 'Creation' in J. Agar Beet, *A Manual of Theology*, 1906; W. Adams Brown, *Christian Theology in Outline*, 1907; W. N. Clarke, *An Outline of Christian Theology*, 1898; I. A. Dorner, *A System of Chr. Doctrine*, Eng. tr. 1880-82; G. P. Fisher, *Hist. of Chr. Doctrine*, 1896; C. Harris, *Pro Fide*, 1905; C. Hodge, *Systematic Theology*, 1872-78; W. G. T. Shedd, *Dogmatic Theology*, 1889-94; H. C. Sheldon, *A Hist. of Chr. Doctrine*, 1886; A. H. Strong, *Systematic Theology*, 1907-9; T. B. Strong, *A Manual of Theology*², 1903.

C. M. GEER.

COSMOGONY AND COSMOLOGY (Egyptian).

—We shall here divide this subject into three stages: (1) earth-myths, (2) sun-myths, (3) theology.

1. Earth-myths.—The attention of primitive man was naturally first directed to explaining tangible Nature—the earth, the sea, and the mists which lay on the land. The most elementary distinction between racial views is the sex of the earth and of the abyss or sea, which from its blueness was naturally thought to be of the same nature as the blue sky—the heavenly ocean. In Egypt the sky (Nut) was feminine, the land (To) was masculine. Exceptionally in the 13th cent. B.C., when Semitic influence was strongest, the sexes were reversed, as in Hebrew *shāmayīm* ('heavens') is masculine, and *'ădāmāh* ('earth') is feminine. Similarly in Babylonia, Ea (the deep) and Anu (the sky) are masculine, while Damkina (the land) is feminine. The same attribution is adopted by Greek, Latin, and German, and in the New Zealand mythology. Egypt was, therefore, exceptional in the sex of land and sky.

These elements of land and water were thought to have been evolved in the primal chaos of the universal ocean (Nu or Nun), when 'not yet was the heaven, not yet the earth, men were not, not yet born were the gods, not yet was death' (Pyramid of Pepy I., l. 663).

This idea passed to Hesiod, along with the same sexes as in Egypt:

> 'From chaos were generated Erebos (masc.) and black Night (fem.),
> And from Night again were generated Ether and Day,
> Whom she brought forth, having conceived from the embrace of Erebos.' (*Theogony*, 123 ff.)

He probably derived it through the Sidonians, who, Damascius asserts, 'before all things place Chronos, and Pothos, and Omichlēs. And by a connexion between Pothos and Omichlēs, as the two principles, are generated Aer and Aura.' This view then seems to have prevailed in the eastern Mediterranean.

The lifting of the watery mists, which are seen rising each morning from the Nile, the parting of them from the earth and the raising of them to the sky, was a work variously attributed to Ra (the sun) or Shu (the atmosphere). The heaven (Nut) was forced apart from the earth (Keb or Seb); and usually Shu is represented upholding Nut over his head.

Similarly in New Zealand, the earth and heaven clave together in the darkness, and had produced gods and men. The gods try to part them, but cannot until the god and father of forests, birds, and insects strives; 'his head is now firmly planted on his mother the earth, his feet he raises up and rests against his father the skies, he strains his back and limbs with mighty effort. Now are rent apart Rangi and Papa, and with cries and groans of woe they shriek aloud. . . . It was the fierce thrusting of Tane which tore the heaven from the earth, so that they were rent apart, and darkness was made manifest, and so was the light' (G. Grey, *Polynes. Mythol.*, Lond. 1855 [reprint, p. 8]).

In Egypt it was similarly assumed that Seb and Nut had produced Ra or Shu before they were separated.

2. Sun-myths.—The genesis of the sun (Ra) is variously attributed to Seb and to Nut. According to one view, Ra was 'the egg of the great cackler,' Seb being, by a play on words, equated with the goose. In another view, Ra was born as a calf of the celestial cow, or child of the sky-goddess; and this may be the motive for regarding the sky as feminine. Another, and a more general, view, when the theologic frame of creation came forward, was to posit the formation of Ra direct from the chaos Nun, and so make him an ancestor of Seb and Nut. Probably this view was that of the Heliopolitan Ra-worshippers, as distinct from the older Seb- and Nut-worshippers in the Nile valley. Ra came into being 'while as yet there was no heaven, . . . and there was nothing that was with him in that place where he was . . . resting in the waters of Nun, and he found no place where he could stand' (Erman, *Religion*, p. 26). Ra then united with his own shadow, and from his seed created Shu and Tefnut, in the midst of the chaos. Shu certainly represents space or air, symbolized by an ostrich feather; Tefnut represents moisture. From Shu and Tefnut were born Seb and Nut; and from them, in turn, the Osiride family, and mankind.

The heaven was regarded as an ocean parallel with that on earth. It was on the heavenly ocean that the sun, the moon, and the stars sailed in ships each day and night. To explain the sun's re-appearing in the morning, they supposed a nocturnal ocean beneath the world, on which the sun sailed as by day. The dead were, on this view, considered as joining the boat of Ra, and sailing, under his protection, through the hours of the night as well as of the day.

3. Theology.—The gods associated with creation are many. *Khnumu*, 'the Shaper,' who shapes living things on his potter's wheel, 'created all that is, he formed all that exists, he is the father of fathers, the mother of mothers . . . he fashioned men, he made the gods, he was father from the beginning . . . he is the creator of the heaven, the earth, the under world, the water, the mountains . . . he formed a male and a female of all birds, fishes, wild beasts, cattle, and of all worms' (Wiedemann, *HDB*, vol. v. p. 179^b). He is figured always with the ram's head, to signify his creative power, and was worshipped at the source of the Nile—the cataract. *Ptah*, 'the Great Artificer,' the Demiurge, shapes the sun- and moon-eggs on his potter's wheel; he is the god of law and order who created all things by *Maat*, truth or exactness. *Osiris* 'formed with his hand the earth, its water, its air, its plants, all its cattle, all its birds, all its winged fowl, all its reptiles, all its quadrupeds.' This is the development of the primitive idea of Osiris as a god of vegetation. *Amon-Ra* also, on the growth of his worship when Thebes was the capital, became 'the father of the gods, the fashioner of men,' and all other things (see Wiedemann, *loc. cit.*). *Thoth*, according to Hermopolite legend, when in the chaos of Nun, created Seb and Nut by his word; and they were parted asunder at Hermopolis. This creation by the word was the highly spiritualized idea of later times, and is seen in the *Korē Kosmou* (500 B.C.), where Thoth-Hermes is first of the gods.

Other sky-gods are *Anher*, 'He who goes above,' god of Theni or Girgeh; and *Horus* as the sky, supported by four pillars who are the four sons of Horus. The mixtures of ideas in later times are so complex, and so combined with the theology, that we cannot touch on them here. Our object has been to show the primitive ideas, and the various nuclei of thought which were combined.

LITERATURE.—A. Wiedemann, *Relig. of the Anc. Egyptians*, Lond. 1897, also his art. in *HDB*, vol. v. pp. 176–197; G Maspero, *Dawn of Civilization*, Eng. tr., Lond. 1894; A Erman, *Handbook of Egyptian Religion*, Eng. tr., Lond. 1907.

W. M. FLINDERS PETRIE.

COSMOGONY AND COSMOLOGY (Greek).—Since the word 'cosmogony' describes the origin of the universe by the figure of birth, it suggests to us in the first instance accounts of a mainly poetic and mythological kind. Yet science also has its fairy tales, and one who sought for information about Greek cosmogonies might not unreasonably look for some account of that, for example, which is contained in the *Timæus*. If this be introduced, so should those of one or two other philosophical systems. We propose, therefore, to deal first with what may be called the *poetic* cosmogonies, and afterwards with the *philosophical*. We shall devote rather more space to the former, as being probably less familiar to most readers. In the case of the latter, we shall take three typical examples, describe them briefly, and try to show the place of each in the history of Greek thought as to the relation between God and the world.

I. *POETICAL COSMOGONIES.*—**1. Homer.**—We find in Homer not a complete cosmogony, but ideas of a cosmogonical kind, or, rather, of a geogonical, as all he is concerned about is the world in which we live. In *Il.* xiv. 246, Oceanus is the father (γένεσις) of all the gods, and in xiv. 201 he is the father, and Tethys the mother. The latter name is usually derived (F. Lukas, *Kosmogonien*, p. 154 n.) from θῆσθαι, 'to suck' (τήθη = 'nurse'). Tethys will then symbolize the suckling mother, Earth. But behind these Nature-powers stands a third still more august, the goddess Night. In *Il.* xiv. 244, Zeus is referred to as younger, indeed, but more potent, than Oceanus; Night, on the other hand, even Zeus fears to offend (*ib.* 259 ff.). Lukas, therefore, follows Damascius (6th cent. A.D.), our chief authority on the first principles of the Greek cosmogonies, in supposing that, for Homer, Night was the supreme geogonical conception (Damasc. περὶ πρώτων ἀρχῶν, c. 124, ed. Kopp, 1826, p. 382).

2. Oldest Orphic cosmogony.—To this head Lukas refers those fundamental conceptions which in various fragmentary notices are directly ascribed to Orpheus. Not the least evidence of their antiquity is their practical identity with what we have found in Homer. Eudemus the Peripatetic declared, according to Damascius (*l.c.*), that Orpheus made his beginning with Night. John Lydus (6th cent. A.D.) stated that Orpheus' three first principles were: Night, Earth, Heaven (Lobeck, *Aglaoph.* 1829, i. 494). Plato, again, quotes a couplet as from Orpheus, describing Oceanus and Tethys as the first wedded pair (*Crat.* 402 B), while he informs us in the *Timæus* (41 A) that Oceanus and Tethys were the offspring of Earth and Heaven. As the former statement is expressly referred to Orpheus, we may be sure that he had the same real or fancied authority for the latter. In this Orphic cosmogony, it will be seen, Oceanus and Tethys are a degree less venerable than in Homer; Earth and Heaven are the older pair. Yet the difference is insignificant, and here, as in Homer, Night is the supreme conception. According to Gruppe (*Griech. Culte*, etc., 1887, i. 613 f.), the cosmogony of *Il.* xiv. was borrowed from the Orphic. But the question of their relation is an extremely difficult one, which cannot be discussed here.

3. Hesiod.—In the introduction to his *Theogony*, Hesiod actually names Earth, Heaven, and Night—the reputed Orphic trinity—as the sources of the gods (verses 106–107); and one feels that, whatever its origin, he is using a familiar and probably already ancient formula. But, at the outset of the poem proper, he proceeds to give us what in fact, though not in name, is a cosmogony of his own (verses 116–136). Its outline is as follows: In the beginning was Chaos, after whom, on the one hand, came Gaia and Eros, and, on the other, Erebus and Night. Erebus and Night were the parents of Æther (or Light) and Day. Gaia of herself produced, first Uranus (Heaven), that he might be a cover to her round about, and that she might be a secure dwelling-place for the gods; and after him the mountains and seas. Lastly, mating with Uranus, she became mother of all the gods, except the few who sprang from Erebus and Night.

At the top, then, of Hesiod's cosmogony stands Chaos. Its meaning has been variously interpreted by ancient no less than by modern commentators. It has been taken for Water, Air, Fire, and Space (cf. for ref. Lukas, *op. cit.* p. 157 f.). Etymology has been appealed to in each case. But no derivation seems more probable than that from χα or χαν (the root of χαίνω, 'to gape,' χαῦνος, χάσμα, Lat. *hisco*, *hiatus*, etc.). Thus we get the meaning of Space, and this further accords with the manner in which Hesiod seems to have arrived at his first principle, viz. by *abstraction*. In pondering the origin of the universe, he thinks away one by one its various contents, until he reaches Space as the final presupposition of all things. As Time comes first in the Phœnician cosmogony given by Eudemus, and, as we shall see, in some Greek cosmogonies, so does Space in this of Hesiod. Zeller (*Pre-Socr. Phil.* i. 88 f.) agrees with Lukas that Space was Hesiod's first principle, and that he reached it by abstraction, but thinks that Hesiod pictured it 'as an immeasurable, waste, and formless mass,' while Lukas understands by it the mere unlimited void.

On the next cosmogonical stage we have two pairs, of which the first is Gaia and Eros. Gaia is Earth, not however as an element, but as a vaguely conceived mass. There is, at first sight, something detached about the appearance of Eros. He enters the stage with the others, but seems to perform no rôle. But the reason is that he is a potency rather than a person. He is the soul of all the unions here recorded. He is the Eros, not of art, but of early local cult like that at Thespiæ (Paus. ix. 27. 1), who was life and love in one, and was taken over by the Orphics (cf. Gomperz, *Gr. Thinkers*, i. 89, and, for the connexion of Eros with the Orphics, J. Harrison, *Proleg. to Gr. Relig.* ch. xii.). We are not told *how* Gaia and Eros came into being. They may symbolize matter and spirit, but they are not derived from Chaos as a higher principle. The ruling principle of the cosmogony is not that of cause and effect, but that of sequence in time. We only hear that Gaia and Eros came afterwards (ἔπειτα). And the same is doubtless true of the second pair, Erebus and Night. They are said to have come ἐκ Χάεος, but the ἐκ may be merely local (Space being referred to), or temporal, or both. Accordingly Gaia, Eros, Erebus, and Night occupy together the second cosmogonical stage.

A step further removed from Chaos are Æther and Day, who are children of Erebus and Night. So the unrelieved darkness gives place to the succession of night and day. Earth also at this stage gives birth to Heaven, that he may shield her with his vault, to the mountains also and the seas; and then, when all is ready for their reception, Earth and Heaven become the parents of the gods.

In Hesiod's cosmogony there is no real attempt to explain the *causes* of things. But it has, according to Lukas, two elements of speculative worth—the conception of *purpose* in creation (the provision of a safe home for the gods), and the far-reaching *abstraction* by which the poet goes back to Space, and then step by step reconstructs the world.

Passing by Acusilaus, a prose chronicler of the 6th cent., and, like Hesiod, a native of Bœotia, whose cosmogony, contained in Damascius, resembles Hesiod's, and has also a marked Orphic colouring (Lukas, *op. cit.* pp. 162–163), we come next to—

4. Pherecydes.—He was a native of Syros, but lived at Athens at the court of Pisistratus (6th cent. B.C.). At Athens 'he founded an Orphic community, though how far he was the disciple and prophet of the Orphic doctrines we are hardly able to say' (Gomperz, *op. cit.* i. 86). His own work has been lost, but numerous notices, which have come down to us from ancient times, and which relate to various parts of his cosmogony, enable us to form, though with reserve on some disputed points, a tolerably full as well as reliable estimate of his system. According to both Damascius (c. 124, ed. Kopp, p. 384) and Diog. Laert. (i. 119), Pherecydes derived the universe from three first principles—Zas (=Zeus), Chronos, and Chthonia (or Chthon). At the summit of the cosmogony, then, stands Zeus. He is probably best regarded as a purely spiritual principle (so, *e.g.*, Arist. *Met.* xiv. 4, 1091a, and many moderns, but cf. *e.g.* Zeller, *op. cit.* i. 91), so far as mind was consciously distinguished from matter at that early date. The spiritual interpretation is confirmed by the statement of Proclus (5th cent. A.D.)—which at the same time presents a new and interesting phase of the cosmogony—that the Zeus of Pherecydes changed himself into Eros when he meant to create the world (*Tim.* 155). Zeus as such, therefore, stands outside the world; he is the principle of supreme might. Chronos, the second member of the trinity, naturally denotes the Time, in which everything happens, and occupies an analogous position to Space in Hesiod's cosmogony. Lastly, Chthonia must be taken to mean either primary matter (Lukas, *op. cit.* p. 170) or the Earth-spirit (Gomperz, *op. cit.* i. 88).

Some of the ancients asserted that *water* was Pherecydes' first principle; but this conflicts not only with Diog. Laert. but with the more detailed account of the cosmogony given in Damascius. A full discussion of this obscure and difficult question will be found in Lukas, *op. cit.* pp. 168–170, or Zeller, *op. cit.* i. 93–94 n.

As regards the relation of the three principles to one another, Damascius implies that Zeus was in some sense first; but his exposition is purely Neo-Platonic. It is safer, therefore, to trust the more objective Diogenes, according to whom the three first principles of Pherecydes were alike eternal (ἦσαν ἀεί).

The cosmogony begins when Chronos produces from his seed Fire, Air, and Water, who then in turn beget the five families of the gods. Thus gods and elements alike are the offspring of Time. And now Zeus-Eros plans to create the world. But at this stage, according to Max. Tyrius (*Dissert.* xxix. p. 304, ed. Davis; cf. also Celsus *ap.* Origen *c. Cels.* vi. 42, *et al.*), a fearful conflict intervenes betwixt Cronos (not to be confused with Chronos) and the dragon Ophioneus for the lordship of Nature. Only when Cronos wins and the dragon is cast into the sea can Zeus set about his creative task. The episode is not quite of a piece with the cosmogony, since Zeus is from eternity,—there is no Cronos before him. But there is no reason to doubt that Pherecydes employed the myth. Perhaps, as Philo of Byblus states (*ap.* Eus. *Præp. Ev.* i. 10, 33), he borrowed it from the Phœnicians. In any case the meaning is clear: before the ordered world, the *κόσμος*, can be established, a victory must be won over the forces of disorder.

The final stage is related by Clem. Alex. (*Strom.* vi. 621 A): 'Pherecydes the Syrian says: Zas makes a mantle, large and fair, and broiders on it earth and ocean and ocean's dwellings.' Again he speaks (*ib.* 642 A) of 'the winged oak and the embroidered mantle that rests upon it.' The 'winged oak' is no doubt 'the earth floating freely in space'—a conception lately introduced by Anaximander (Gomperz, *op. cit.* i. 89). The rest of the imagery explains itself.

Points of likeness between the cosmogonies of Pherecydes and Hesiod will readily occur to the reader. Here we only note points in which Pherecydes marks an advance. In the first place, Zeus, according to the interpretation here followed, and even on the lower, is a more spiritual conception than Chaos (Space). In the second, there is a certain suggestion of science in the cosmogony. The four elements are named before the formation of the world. So far, indeed, as our accounts go, Pherecydes does not work the suggestion out. On the other hand, he clearly treated Eros (Love) as a cosmical principle, and one cannot but suspect that, if his whole work had reached us, we should have found that Zeus-Eros used the elements as materials for his creative task.

Damascius (c. 124, ed. Kopp, p. 385) gives a fragment of a cosmogony by the Cretan Epimenides (c. 600 B.C.). In this cosmogony we meet for the first time among the Greeks the doctrine of the World-Egg. But it is little more than mentioned, and so we shall pass at once to give some account of the later Orphic cosmogonies, in which it plays a prominent part.

5. Later Orphic cosmogonies.—In a former section we dealt with certain thoughts about the origin of the world which were ascribed to Orpheus, but here we are dealing with entire systems. They are highly mystical and pantheistic, and, though fanciful and grotesque, are most naturally referred to a period of religious and philosophical syncretism. Hence some critics like Zeller (*op. cit.* i. 100 ff.) refuse to regard any of them as earlier than the 1st or 2nd cent. B.C. Others, however, assign a much earlier date to the one which Damascius tells us was contained in the current 'Rhapsodies,' and which he describes as the usual Orphic theology. Thus O. Gruppe (in Roscher, *s.v.* 'Orpheus') argues strongly, but cautiously, in favour of the view that it was formed in the 6th cent. B.C. on the basis of a still earlier Orphic myth. To this system we now turn our attention.

(1) *Rhapsodist cosmogony.*—This includes what the Orphics taught both about the Divine nature and about its relation to the world. The fullest account of the former is contained in Damascius (c. 123, ed. Kopp, p. 380). He must, indeed, be used with caution, owing to his Neo-Platonic bias. Lukas points this out, but thinks he may be trusted for the number, sequence, and names of his first principles. In this he seems to go too far, but, if we combine all that is essential in Damascius with what we learn from other sources, especially Orphic fragments (for which cf. Gruppe, *l.c.* p. 1139), we reach the following result, which will be found in essential agreement with what, for example, is contained in Zeller (*op. cit.* i. 104) or in Gruppe (in Roscher, *s.v.* 'Phanes'). At the summit of the system stands Chronos (Time). Next come Æther (bright, fiery substance, cf. 'Stoic cosmogony' below) and Chaos (Space). Lukas observes that, though Time is named before Space, it is not viewed as producing it, but merely as the active principle, while Space receives that which arises in Time (but cf. Zeller, *l.c.*). After Æther and Chaos comes the Egg, which is viewed sometimes as the offspring of Chronos and Æther (fr. 53), sometimes as that of Æther and Chaos (Proclus, *Tim.* i. 138). In either case it springs from Æther, and is thus, as Lukas calls it, an Egg of Light. Damascius elsewhere describes it as ἀργύφεον, 'silver-white.' And it deserves the name, not only because it was formed from the light of heaven, but because from it, as we shall see, Phanes, the light of the world, proceeded. Finally, there issues from the Egg the first Orphic god. Damascius, who favours trinities, calls him Phanes-Ericapæus-Metis, which is generally interpreted 'Light, Life-giver, Counsel.' But, above all, he is Phanes, 'Light,' who becomes at will the light of reason, the light of life, and—for he is also Eros—the light of love. As first-born of the gods he is Protogonos. There is something sublime in these conceptions. But Phanes was also 'polymorphic, a beast-mystery god,' a creature monstrous and grotesque, as in the fragment quoted by Proclus (*Tim.* ii. 130):

> 'Heads had he many,
> Head of a ram, a bull, a snake, and a bright-eyed lion'
> (J. Harrison, *op. cit.* p. 651).

Such was the Orphic doctrine of the Divine nature. It had one feature which, according to Lukas, gave speculative value to the Rhapsodist cosmogony. This is the effort to explain the origin of life. While many cosmogonies *begin* with a Divine being, the Orphic sees in his God the last stage in the evolution of life out of the lifeless.

We have next to consider Phanes' relation to the world. He had in him all the forces, or *σπέρματα*, out of which it sprang. Hence, though he was sometimes called its creator, he was generally thought of as having given it birth. The idea took the form of a theogony, in which the successive dynasties of gods represent the successive stages in the evolution of the world. In this process, part of the god became the world's life; with the other he withdrew as sun into the heavens, where only Night could look on him, while his splendour amazed the other gods. But when Zeus attained to sovereignty he devoured Phanes. Thus the old order was dissolved, but thus also Zeus became the sum of all things. He *became* Phanes (see next section), and from him a new race of gods, a new world, sprang. In his son, Dionysos, the god of the mysteries, Phanes was born again. Like Phanes, Zeus became the world—*Ζεὺς κεφαλή, Ζεὺς μέσσα, Διὸς δ' ἐκ πάντα τέτυκται* (fr. 123),—but, like Phanes also, he dwelt apart, for his mind was the ether (Gruppe, in Roscher, *s.v.* 'Orpheus' and 'Phanes'; Pauly-Wissowa, *s.v.* 'Orpheus'; Zeller, *op. cit.* p. 104 f.; J. Adam, *Relig. Teachers of Greece*, p. 95 f.; Lobeck, *Aglaoph.* 518 ff.; fr. 120 ff.).

The story of the swallowing of Phanes has usually been explained as a device to recover for Zeus his ancient dignity as source of life—for had he not long ago devoured Metis and borne Athene? This could be done by showing that he swallowed Phanes who was *also* Metis. But Gruppe sees in the story a different motive. It was to depict the periodical renewal of the universe, which he regards as the ground thought of the Rhapsodist cosmogony. This was a feature of Stoic cosmogony (see below) to which the Orphic doctrine has other points of resemblance—especially its pantheistic materialism, and its view of Æther as the principle of Divine life. On the whole, it is difficult not to believe that there was a close connexion between the two cosmogonies, on whichever side the borrowing lies.

(2) *The cosmogony of Hieronymus and Hellanicus.*—From the Rhapsodist theogony, Damascius passes to one which he describes as *ἡ κατὰ τὸν Ἱερώνυμον φερομένη καὶ Ἑλλάνικον*. It is uncertain, and cannot be here discussed, whether it was known to Hellanicus of Lesbos in the 5th cent. B.C., or was published under his name by Hieronymus in one of the later pre-Christian centuries. It was generally Orphic in character, but differed, as Damascius indicates, from the current Orphic theology. We cannot, indeed, be sure as to its precise form. This is due chiefly to the fact that we find in Athenagoras (2nd cent. A.D.) what is evidently a different version of the same original doctrine. The differences will be afterwards mentioned. Meantime we shall notice briefly the main points in Damascius' version.

At the head of this cosmogony we find, not Chronos, as in the last, but—Water and Slime. Out of these springs Chronos. This does not mean that Time is not viewed as an active first principle, but only that it is more concrete. Here Time is viewed as force—force which presupposes matter to work on. The Orphic imagination runs riot in depicting this force. Chronos is a winged dragon with the heads of a bull and a lion, and betwixt them the face of a god. He is Chronos-Herakles-Ananke-Adrasteia. Herakles betokens his might, Ananke his necessity, Adrasteia his inevitability. Next, Chronos produces Æther, Chaos, and Erebus. We met Æther and Chaos in the Rhapsodist cosmogony, but here they follow after primary matter, and so Æther is more grossly conceived as *humid* (*νότερος*). In the same way Erebus is *misty* (*ὀμιχλῶδες*). Lastly, in the midst of the vaporous space, with its mingled light and gloom, Chronos produced an Egg (*ᾠὸν ἐγέννησεν*). This naturally implies that it partook of the substance with which space was filled. It was, therefore, formed out of grosser elements than the Egg of the Rhapsodist cosmogony. Thus also we are told that it had within it the seed of male and female, and likewise of all manner of things without life. For this very reason it better deserves to be called a World-Egg. But it is not an Egg of Light. And, lastly, we have the same contrast in the Divine Being, the Maker and Ruler of the world, who issues from the Egg. In his monstrous and grotesque form he resembles the first-born God of the other cosmogony. But he has lost his title of Phanes, the god of light, and appears as Protogonos-Zeus-Pan.

As compared with the current Orphic doctrine, that just examined is marked by a certain coarse realism. Both in form and spirit it is less distinctively Greek. In some points, indeed, it closely resembles the Phœnician cosmogony, and Zeller maintains that its author borrowed directly from that source (*op. cit.* i. 102-3 n.; but, on the other side, cf. Gruppe, in Roscher, *s.v.* 'Orpheus,' p. 1141).

In describing the Orphic doctrine, Athenagoras, who was a Christian, no doubt selected the cosmogony of Hellanicus and Hieronymus because he saw most in it to condemn. But what specially concerns us is the form in which he presented it. The series begins with Water and Slime, and out of these Chronos-Herakles is evolved. But here the resemblance to Damascius ceases. No mention is made of Æther, Chaos, and Erebus. Chronos-Herakles produces a gigantic egg, which breaks into halves, of which the upper forms the heaven, and the lower the earth. In this naive conception there is clearly no element of speculative value. The egg has no special significance beyond its shape. On the other hand, in the cosmogonies described by Damascius, the World-Egg is an expression of the profound thought that the universe is an organism, gradually formed from an original germ, in obedience to the same law which governs every living thing.

(3) Before leaving the Orphic cosmogonies proper, we may briefly notice three others of minor importance. (*a*) The first and the best known is that of *Apollonius Rhodius* (3rd cent. B.C.), who in the *Argonautica* (i. 494 ff.) puts into the mouth of Orpheus some verses describing the origin of the world. Here the separation of the four elements is ascribed to the action of Discord—an idea evidently borrowed from Empedocles. The legend of Ophioneus and Chronos, which was used by Pherecydes (see above), is introduced in a somewhat different and, judging by internal evidence, less authentic form (cf. Gomperz, *op. cit.* i. 91). (*b*) *Alexander of Aphrodisias* (3rd cent. A.D.) gives us the following series: Chaos, Oceanus, Night, Uranus, Zeus. This, it will be seen, resembles the older rather than the later form of Orphic cosmogonies. (*c*) Lastly, the author of the *Clementine Recognitions* (X. xvii.) gives a brief summary of Orphic doctrine. Some of the first principles, notably the Egg and Phanetas, remind us of the Rhapsodist cosmogony, but the account as a whole is less coherent, and strikes one as probably less accurate, than that of Damascius.

6. Aristophanes.—In one famous passage (*Av.* 693 ff.) Aristophanes depicts the origin of the universe. In the beginning were Chaos, Night, Erebus, and Tartarus. Into the bosom of Erebus, Night laid a wind-born egg (*ὑπηνέμιον ᾠόν*) from which, as the seasons rolled, Eros sprang, gleaming with golden wings. Eros blended all things together, and from their union Heaven, Ocean, Earth, and the race of the gods were born. J. Harrison (*op. cit.* p. 626) calls the passage about the birth of Love 'pure Orphism.' And, indeed, Gruppe (in Roscher, *s.v.* 'Orpheus,' p. 1121) maintains that the gold-winged Eros springing from the egg was part of the oldest Orphic doctrine. But some details in the passage remind us of other cosmogonies, especially that of Hesiod (cf. Lukas, *op. cit.* p. 196).

The 'theologians,' as Aristotle calls those whose doctrines we have been considering, represent a perfectly distinct phase of Greek thought. 'Their mind was less scientific than that of the "physiologists." They made a far keener demand for a vivid representation of the origin and development of the world' (Gomperz, *op. cit.* i. 85). Nor were they satisfied with the current mythology. Its tales were perhaps too immoral. Certainly its cosmogony was too vague. And so they sought to fill up its gaps partly from local legend, partly from the traditions of foreign peoples.

Gomperz has striven to show (*op. cit.* i. 92-97) that various features in the Greek cosmogonies—the World-Egg, the two-fold nature of the Orphic godhead, in which the male and female attributes were united, and the important position occupied by Chronos as the Time-principle—were ultimately derived from Babylon, although the two former had probably their direct source in Egypt, but a discussion of this question would carry us beyond our present limits.

II. *PHILOSOPHICAL COSMOGONIES.*—The cosmogonies we have examined, though not without elements of speculative value, are essentially hypothetical in character; those to which we now turn represent the effort to explain the world on philosophical principles, and in each case from a distinct philosophical point of view. For this very reason, however, they cannot be properly understood or appreciated apart from the general movement of Greek thought. This, therefore, we must also try very briefly to indicate.

1. Early Ionian philosophers.—The earliest Greek philosophers were natives of Ionia in Asia Minor. Beginning with Thales, who flourished at Miletus about 600 B.C., they each sought to explain

the universe from a single, and that a material first principle. They discussed more or less fully the nature of the changes which the primary matter underwent, but the ultimate cause of the movement, by which the world in all its parts was formed out of material elements, was a subject on which Thales and his immediate successors had little or nothing to say. The reason was that they regarded the cause as inherent in the nature of matter itself (Gomperz, *op. cit.* i. 56). This was also true of Heraclitus of Ephesus (*c.* 500 B.C.): to him also matter was 'organically alive' (*ib.* p. 66). But a great step in the history of Greek speculation is marked by his doctrine of the *Logos*, by which he gave expression to the thought that the world-forming process must be guided by Intelligence. He taught, indeed, that all reality is material, and that the primary element is Fire; but, as he assigned to the latter the attribute of reason, he called it also the Logos. In other words, the Logos viewed on its corporeal side was Fire, and Fire viewed on its spiritual side was the Logos (J. Adam, *op. cit.* p. 224). Here, then, a first principle was postulated, which was at once material and rational, and it was on this basis that the Stoic cosmogony (see below) was afterwards reared. But before that time the great thinkers of Greece had sought to show that the world was framed by God as at once a rational and non-material Being, and Heraclitus at least paved the way for that conception when he endowed his First Cause with the attribute of reason.

2. The first Greek philosopher who traced the world to a non-material agency was **Empedocles** (*c.* 450 B.C.). He did this in his doctrine of the four elements, whose movements were determined by the twofold agency of Love and Discord (J. Adam, *op. cit.* p. 245). But a far more important step in the direction of idealism was taken by **Anaxagoras**, who, though born rather earlier than Empedocles, probably had the work of the latter before him when he wrote (*ib.* p. 254). According to Aristotle, it was Anaxagoras who first pointed to the real cause of the movement by which the world was formed. This cause he named Nous, or Reason, to which also he seems to have attributed a mainly, if not exclusively, transcendent existence (*ib.* p. 371).

3. **Plato.**—Though Anaxagoras did not make much use of his great conception, it led to far-reaching results. Especially it brought into clear view the opposition between matter and spirit. The opposition may not be absolute, but it was naturally the distinction between the two which first occupied the attention of philosophers. It was the chief problem of Plato's Dialectic. But it is with its cosmological aspect that we are here concerned. If the First Cause was purely immaterial, how could He act on matter at all so as to create the world? In this question and the answer to it lies the chief significance of the cosmogony which Plato has set before us in the *Timæus*:

Even apart from much that does not strictly belong to it, the cosmogony of the *Timæus* is intricate, but here it will be enough to consider its main ideas. For a fuller exposition and discussion the reader may be referred to Jowett's *Plato*, vol. iii., or to Adam, *op. cit.* p. 360 ff.

God formed the world out of a material so intractable that it could not be completely moulded to His will. But He introduced into the primary substance 'as many proportions *as it was possible* for it to receive' (*Tim.* 69 B). The stubborn power, which thus resists the Creator, Plato calls 'Necessity.' It is the root of evil in the world, and, as it will not wholly yield to God, 'the Creator in Plato is still subject to a remnant of Necessity which he cannot wholly overcome' (Jowett, *Plato*, iii. 391).

In forming the world, God gave it a Body and also a Soul. (1) *The body.* On certain portions of primary matter, which was formless and chaotic, God imprinted various mathematical 'forms' and 'numbers' (*Tim.* 53 B). Thus arose the four elements of which the body of the universe was composed. The idea of a Divine mathematician, in which Pythagorean influence is plainly visible, runs through the whole account of creation. According to Plutarch, Plato said that God is always playing the mathematician (θεὸς ἀεὶ γεωμετρεῖ). (2) *The soul.* Plato describes the elements of which the World-Soul was composed, but his account is highly metaphysical, and need not detain us here. It is enough to examine its attributes. Of these the first is Motion. It is manifested in the movements of the planets (*Tim.* 36 D), but it has other aspects, not directly referred to in the *Timæus*, which are important in estimating the nature of the World-Soul. According to the *Laws* (x. 896 A), the essential quality of soul is self-movement. Further, the Soul is the cause of movement in other things, and by movement (κίνησις) Plato understood every kind of change (*ib.*, *Phædrus*, 245 C). The World-Soul, therefore, is the cause, not only of locomotion, but also of 'separation and combination, growth, decay, and dissolution' (J. Adam, *op. cit.* p. 368). The second attribute is Intelligence. It is here to be taken in the widest sense, for we are given to understand that the World-Soul apprehends not only ideas, but sensible realities, and such as lie between the two (*ib.* p. 369 f.). On the other hand, 'the World-Soul, as described in the *Timæus*, has nothing analogous to the principles of anger and desire . . . which, according to Plato, constitute so large and turbulent a portion of the human soul' (*ib.* p. 370). Plato speaks of the World-Soul as *created.* In what sense he used the term he nowhere precisely explains, but there can be little doubt that he thought of an emanational process. Such is the view of the writer just quoted, who thus sums up the cosmogonical process: 'At the beginning of Time, God created the Universe. A spirit or soul went forth from him, and inhabited the body which he redeemed from chaos by imprinting mathematical forms on primordial matter' (*ib.* p. 373).

The universe, thus formed of body and soul, is described as εἰκὼν τοῦ ποιητοῦ, μονογενής, 'image of its Creator, only-begotten.' Thus it is related to Him as son to father. Further, it is itself a god, a θεὸς αἰσθητός, or 'perceivable god' (*Tim.* 92 C). On the other hand, the Creator is a Being mysteriously remote, 'hard to discover' (*ib.* 28 C), who, when He had made the world, 'abode in his own nature' (*ib.* 42 E).

We may now see how the Platonic cosmogony was an attempt to explain the world on dualistic principles. Since God as pure thought could have no contact with matter, Plato was obliged to assume for the work of creation some formative principle separate from God Himself. Hence the separate existence of the mathematical forms imprinted on matter, and especially of the World-Soul incorporated within it. It is from this point of view that Caird describes the World-Soul as 'a kind of bridge to connect two terms which it is impossible really to unite' (*Evolution of Theology in the Gr. Phil.* ii. 266).

4. Although Aristotle (*q.v.*) effectually criticized the theory of 'Ideas,' which Plato held to exist apart from matter, yet his own doctrine was fundamentally dualistic, as appears from his view of the Divine life as an energy of self-contemplation. But after his time Greek thought swung round to the opposite pole. Abandoning the dualism by which mind and matter, subject and object, were opposed to each other as mutually exclusive realities, it sought to explain the world by means of

a single principle. This men sought where they felt surest of finding it, in their own subjective experience. Thus they hoped for a certainty which they could never have about an object with whose appearances only they were acquainted. It may be added that the subjective trend in philosophy was part of a general movement affecting the last epoch of Greek national life, from Alexander the Great onwards (Schwegler, *Hist. of Phil.* pp. 120–122). Now, the subjective life itself has two sides, the one universal and spiritual, the other individual and material. It was on the latter view of man's nature that the Epicureans based both their ethical and their physical theories. The Stoics, on the other hand, appealed in their Ethics to man's rational nature, while in their Physics they derived the world from a material principle (for the reason of this apparent inconsistency, see Schwegler, *op. cit.* p. 125). It will be seen that in their use of a single principle the Stoics and Epicureans returned to the point from which philosophy had diverged after the time of Heraclitus, but, as R. D. Hicks remarks (art. 'Stoics,' in *EBr*^{11}), 'until dualism had been thought out, as in the Peripatetic school, it was impossible that monism (or at any rate materialistic monism) should be definitely and consciously maintained.' Both the Epicureans and the Stoics had what may be called a materialistic cosmogony, but that of the Stoics is in several ways the more important, and to it therefore we now turn.

5. Stoic cosmogony.—The Stoic first principle was akin to the Fire of Heraclitus, but of a subtler nature—a fiery breath (*πνεῦμα*) or ether (*αἰθήρ*). But in a more important respect it differed from Heraclitus' first principle. For the Stoic primary substance was matter regarded in its distinctively active aspect as force. Viewed in relation to the actual world, it is thus described by R. D. Hicks (*loc. cit.*):

> 'Before there was heaven or earth, there was primitive substance or Pneuma, the everlasting presupposition of particular things. This is the totality of all existence; out of it the whole visible universe proceeds, hereafter to be again resolved into it. Not the less is it the creative force, or deity, which develops and shapes this universal order or cosmos.'

So far the Stoic theory reminds us of much that we have already met with in other systems. But the *mode* of the creative activity, as conceived by the Stoics, was altogether new. The Stoic primary substance, be it remembered, is matter and force in one (cf. Zeller, *Stoics*, etc., p. 148: 'the forming force . . . is in itself something material,' etc.). Its force is that of *tension*, the expansive and dispersive pressure due to heat, and the extremity of the tension is seen in the fact that all distinction of particular things, due to relative density, is lost within it. It cannot long withstand the intensity of this inward pressure. It sways to and fro, and this movement cools a little the glowing ether. Condensation begins, and with it the first distinction within the primal substance—the separation of force from matter. Matter is now the relatively passive; but, as first formed, it differs but little from the pure activity of the substance from which it sprang. It is the element of fire. But again, as condensation proceeds, fire produces air, and this in turn the grosser elements of water and earth. Throughout the process, however, the more active substance never quite surrenders its own nature. Thus only a portion of air becomes water or earth, and something of the pure *Pneuma* itself remains in the ether which stretches above and around the world. As already seen, the distinction of active and passive in the case of the four elements is only relative; and this appears still further in the blending of the elements with one another, and the formation of all particular things. In the universe thus formed the finer substances are those in which the tension of the primary substance is greatest, and the solid are those in which it is most relaxed, and in which matter appears most inert and passive. And, finally, all the shapes and other attributes of things are referred to the ethereal force. Here the need of a guiding Intelligence is most felt. And in fact the force moving in the world was to the Stoic the Soul of the World. Although material, it was, like the Fire of Heraclitus, also intelligent, even as the *λόγοι σπερματικοί* before the dawn of creation slumbered within it.

The Stoic cosmogony was the chief attempt made by the Greeks not merely to derive but to *explain* the origin of the world from a purely material first principle. It was ingenious, and its account of the manner in which force works in the material world contained elements of permanent value. But it went too far in treating force as a genetic first principle. For material energy is always relative to matter as passive and inert. Nor does it, indeed, appear that the Stoics conceived of force as anything else than the formative aspect of matter (cf. Zeller, *l.c.*). Nevertheless, by regarding it as a primary substance out of which the world was evolved, they *ipso facto* ascribed to it an independent reality. Hence the Stoic first principle was an abstraction which could explain nothing.

6. Neo-Platonic cosmogony.—Before leaving the Greek cosmogonies, we must notice briefly a second and very different attempt to explain the origin of the world from a monistic standpoint. We refer to the system of the Neo-Platonists, who belonged to the last period of Greek thought, when Stoicism and Epicureanism had run their course. The Neo-Platonists taught that the ultimate source of being was neither matter nor spirit, but a real unity transcending both. In this they might seem to quit the subjective standpoint of the later philosophical systems. Yet in reality theirs was the most subjective of all. They found the key to the Divine nature solely in the subjective side of human experience, in the unity given to outward impressions by the thinking subject. They taught also that the material is less real and perfect than the ideal world, that intellectual cognition is the pathway to truth and goodness, and that actual contact with these realities is attained only by means of an 'ecstasy,' in which the distinction between subject and object disappears.

The Neo-Platonists claimed that their doctrine was the direct outcome of Plato's teaching, but in this they did less than justice to the objective element in the latter. No doubt there were features in Plato, especially the terms in which he described the transcendence of God, which gave some support to this claim. But Neo-Platonism owed far more to Oriental influence, the causes of which we cannot stop to inquire (cf. Ueberweg, *Hist. of Philos.* i. 222 f.). It is, in fact, a blend of Greek and Oriental elements. It may be added that 'the religious philosophy of the Alexandrian Jews and the Gnosis of early Christianity are products of the same elements, but under an Oriental form' (*ib.* p. 223).

Plotinus (A.D. 204–269) is the most representative teacher of this school. Of his doctrine, contained in the six *Enneads*, which were published by his pupil Porphyry, a very brief summary must suffice:—The first principle, from which Plotinus derives the universe, is called by him the One, or the Good. This supreme essence is absolutely transcendent, and incognizable. It cannot be described as either Being or Intelligence, for either epithet would imply a limitation of its absolute unity. It is *ἐπέκεινα τῆς οὐσίας* and also *ἐπέκεινα* *νοήσεως*. It is not however, irrational, but only supra-rational (*ὑπερβεβηκὸς τὴν νοῦ φύσιν*). Its title of 'the Good' immediately reminds us of the Supreme Being in Plato. But, in spite of the abstract manner in which 'the Good' or 'the Idea of the Good' is described in the *Republic*, it is clear that Plato ascribed to it both being and intelligence. (For the meaning of 'the Good' in Plato, and for a comparison with Plotinus, see J. Adam, *op. cit.* p. 446 f., and Ueberweg, *op. cit.* i. 122, 246 f.)

As the source of all things, the One produces first of all the highest kind of actual being, which is Mind (*νοῦς*), *i.e.* the Divine Mind (Ueberweg, *op. cit.* i. 248). In this Mind the Ideas (*νοητά*) are immanent. They are not, however, mere thoughts, but parts of the Mind's essence, and for this reason, on which Plotinus lays great stress, they are absolutely true objects of thought. Thus the Nous is at once the Subject and the Object of knowledge; in the first aspect Plotinus regards it as at rest, in the second as active. But *how* did the Nous originate from the One? Plotinus regards this as a problem so difficult that it must be approached with prayer (*Enn.* v. 1, 6). He finds an analogy in the idea of radiation (*περίλαμψις*). The Nous arises from the One like brightness from the sun (*ib.*). The great difficulty, of course, was to explain how actual Being could arise from a source to which the attribute of Being was denied. But he finds a solution 'in the transcending power of the One, which latter, as the superior, can send forth from the superabundance of its perfection the inferior, without having contained the latter, as such, in itself' (Ueberweg, *op. cit.* i. 247; *Enn.* v. 2, 1).

As the One produces Mind, so does Mind produce Soul (*ψυχὴν γεννᾷ νοῦς*, *Enn.* v. 1, 7). And, as Ideas appear along with Mind, so does Body along with Soul. As Plotinus expresses it, Soul, as it issues from Nous, extends itself into the corporeal, as the point extended becomes a line (*ib.* iv. 1). Plotinus says that the Soul has a divisible element, yet he also says that it is immaterial. He tries to reconcile the two statements as follows: 'The soul is *per se* indivisible, being divided only as related to the bodies into which it enters, since these could not receive it if it remained undivided' (*ib.* iv. 21; Ueberweg, *op. cit.* i. 249). The Soul in its entirety is present throughout the body, yet in all its faculties—reason, memory, perception, and even life-force—is absolutely separable from it. There is a plurality of souls. The highest of all is the Soul of the World, but other souls have also a separate existence of their own (*Enn.* iv. 3, 7, iv. 9).

Lastly, what is the Neo-Platonist view about the nature and origin of *matter*? In Plato, matter and mind remain as two ultimate facts. Plotinus, on the other hand, declares that the soul, in virtue of its mobility, *begets* matter (*ib.* iii. 7, 10, iv. 3, 9; Ueberweg, *loc. cit.* i. 249). Now, so far as the material is known to us, *i.e.* so far as it possesses form, it partakes of an ideal nature. But Plotinus recognizes that beneath that form there is a *substratum* (*ὑποκείμενον*), a something which is different from the form and which might take other forms. This *substratum* he calls the *βάθος*, or 'depth,' of each thing, and he says that it has no real existence; it is *μὴ ὄν*. He explains its nature partly by reference to the Ideas which are the objects of Nous. In its most general sense the term *ὕλη* ('matter') is also applied to these. And just because they are *objects* of thought, they also possess this quality of *βάθος*, or 'depth.' But they are nevertheless wholly real, like the Mind which knows them. And Plotinus says that the *substratum* of sensible things is only a shadow (*εἴδωλον*) of the *substratum*, as their form is but a shadow of the form pertaining to the Ideas.

The theory whose essential features we have thus tried to give represents the last important attempt made by Greek thought to explain the origin of the world. It fails mainly through the abstractness of its first principle—a Unity of which not even Being can be predicated.

In its mysticism the Neo-Platonic theory of the world reminds us not a little of the Orphic cosmogonies. It resembles them, indeed, both in form and in spirit, as might be inferred from the fact that the notices of the latter given by Damascius are interwoven with Neo-Platonic conceptions.

LITERATURE.—The following, though only a selection from an immense number of books dealing with various parts of the subject, will, together with their references, supply all needed help to those who wish to study it further: F. Lukas, *Die Grundbeg. in den Kosmog. der alten Völker*, Leipz., 1893, to whom the writer has been specially indebted in the first part of the subject; O. Gruppe, *Griechische Culte und Mythen*, i., Leipzig, 1887, and artt. 'Orpheus' and 'Phanes,' in Roscher; E. Abel, *Orphica*, Leipz. 1885; T. Gomperz, *Gr. Thinkers*, Eng. tr., vol. i., London, 1901; E. Zeller, *Stoics*, etc., new and rev. ed., do. 1892, *Pre-Socr. Phil.*, vol. i. do. 1881, *Outlines of Hist. of Gr. Phil.*², do. 1892, *Plato and the Older Acad.*, do. 1876; J. E. Harrison, *Proleg. to Study of Gr. Relig.*², Camb., 1908; J. Adam, *The Relig. Teachers of Greece*, Edinb., 1908; B. Jowett, *Dialogues of Plato*³, vol. iii., Oxford, 1892: R. D. Hicks, art. 'Stoics,' in *EBr*¹¹, also *Stoic and Epicur.*, London, 1910; T. Whittaker, *The Neo-Platonists*, Camb. 1901; C. Bigg, *Neoplatonism*, Lond. 1895; E. Caird, *The Evol. of Theol. in the Gr. Philosophers*, Glasgow, 1904; J. Horowitz, *Philons u. Platons Lehre v. d. Weltschöpfung*, Marburg, 1900; R. Adamson, *Development of Gr. Philos.*, ed. W. R. Sorley and R. P. Hardie, London, 1908; A. Schwegler, *Handb. of the Hist. of Philos.*, Edin. 1885; F. Ueberweg, *Hist. of Philos.*, vol. i., London, 1872; J. E. Erdmann, *Hist. of Philos.*, do. 1898; A. Harnack, *Hist. of Dogma*, Eng. tr., do. 1894–1899.

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COSMOGONY AND COSMOLOGY (Hebrew).—There are generally recognized in the Hebrew Scriptures two formal cosmogonies, the earlier of which is contained in Gn 2, beginning with v.^{4}, or rather v.^{5}.

1. Cosmogony of J.—This story, as we have it, belongs to the pre-exilic, historical, Prophetic narrative of the Judæan kingdom (J), which was in course of composition from about the time of Solomon until the middle of the 8th cent. B.C. The cosmogony, as much as we have of it in Gn 2, assumes the world as already existing, and deals only with its preparation for the use of man. With it is connected the story of the Garden of Eden, the Temptation, and the Fall and its consequences. The object is not so much to answer the question, How did the world come into existence? as the questions, Where did man come from? Why does man differ from the beasts? especially, Why does man have a sex consciousness and a sex shame, which the beasts do not have? and, Why must man, who is the crown of creation, toil and labour to get his bread, and to reproduce his kind, by the sweat of his brow and the agony of his body? So far as the nature of man is concerned, this cosmogony, while naively primitive, is full of a childlike wisdom and sweet spirituality, which has commended it to all succeeding ages, and which was doubtless the cause of this part of the J narrative being preserved at a time when the Pentateuch was cast into the present form and prefaced by the great cosmogony of the Priestly Code (Gn 1–2^4).

In the cosmogony of Gn 2, the earth is assumed as already in existence, a barren place on which there were no shrubs and no herbs, because Jahweh Elohim had not yet caused rain to fall on it, and because—a charming bucolic touch, characteristic of the anthropomorphism of the whole narrative—there were no men to till the ground. But a fountain[1] went up out of the earth and watered all the face of the ground (v.⁶). Then, out of the dust of the ground, moistened by this water, Jahweh Elohim, like a potter, made man, and, having made him, breathed into his nostrils the breath of life, whereupon man became a living creature. And, because he was made out of the ground (*'ădāmā*), therefore he was called 'man' (*'ādām*). Then Jahweh Elohim planted a garden in Eden, far away to the east, and caused all sorts of beautiful trees and goodly fruits to grow there, and the tree of life and the tree of the knowledge of good and evil. Through the garden, coming from the fountain which connected with the waters beneath the earth, flowed a great stream, watering the garden and dividing, as it left it, into the four great rivers of the world—Pishon, Gihon, Tigris, and Euphrates.

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[1] אֵד, practically a ἅπ. λεγ. (the only other occurrence is Job 36^{27}), rendered in EV 'mist.' LXX has πηγή, which, practically, Gunkel follows. This accords with the following narrative, the reference being apparently to the great source out of which came all the rivers of the world. In this narrative the waters

Jahweh Elohim put man in His garden to till it and guard it, and permitted him to eat of all the trees in the garden, except only of the tree of the knowledge of good and evil. Then, seeing that the man was alone, He planned to give him a helpmeet, and formed all the beasts and birds and brought them to man, who named them. But among them was found no mate for man. Then Jahweh Elohim caused man to fall into a profound sleep, and, taking one of his ribs, clothed it with flesh and made out of it woman; and her the man at once recognized as his mate, bone of his bone and flesh of his flesh. Woman (*'ishshā*) was she called, because derived from man (*'îsh*); therefore a man leaves his father and his mother and cleaves to his wife, and they become (literally, by physical union) one flesh. And the two of them, the man and his wife, were naked, and were not ashamed.[1]

The story here told is in many of its particulars identical with the cosmogonies and cosmologies which we meet elsewhere. The thought is world thought, the out-thinking of primitive man almost anywhere. When he asks himself the question, Of what is man created? the natural answer is: Dead, he returns to dust; therefore, out of dust he came; and so, as the potter makes vessels out of clay (dust mixed with water), God made man. So breath, which is wind (a part of God's breath), is the element of life; for, if the wind or breath goes out of a man, he is dead. So, again, the relation of name to thing, which plays so important a part in this cosmogony, is not characteristic of any one people, but is a very wide-spread conception of primitive men. Name and thing are one. To know the name is to know the essence of the thing; and to know is to have power over—the utterance by Adam of the names of the beasts put those beasts in subjection to him who had given them their names. The serious plays upon words —*'ădāmā* and *'ādām*, *'îsh* and *'ishshā*—are based upon the same theory of the identity of name and thing. Of course, this assumes that the primitive language was Hebrew, in accordance with the universal belief of primitive peoples that their own language was spoken by God Himself. The story of the origin of mankind, told in the person of a being bearing the name 'Man,' is common also to various national cosmological myths. The same is true of the relation of man and woman here described, and, to a considerable extent, of the garden of God in which man was placed.

But, while much in the story may be classed as universal primitive thought, there are also certain ear-marks which unmistakably indicate a Bab. connexion for at least some of the fundamental thoughts of our tale.

The park or garden which God plants, and in which He sets the man whom He creates, is far off, in some remote land away to the east. This is the case also with the Egyptian paradise; but, when we note the name Eden, apparently the Bab. *edinu*, 'plain,' for the garden, and the names of the rivers which have their source in it, we are obliged to recognize the influence of Bab. thought. The garden, it is true, is not in Babylonia, yet it lies in the region out of which the rivers of Babylonia take their origin. It is a plain on the top of the mysterious mountain of the north, where, in Bab. thought, the gods had their abode.[1] Probably also the fourfold number of the rivers connects itself with those representations which we find in early Bab. art of a four-divided stream, all the rivers of the earth pouring out from one great fountain connecting with the great deep, the waters beneath the earth. In the relation of man to the beasts, before woman was created, there is also at least a suggestion of resemblance to the story of the wild primitive man, Eabani, in the Bab. Gilgamesh legend. Eabani was made out of clay by the goddess Ishtar, in whom is the womb of life. At the outset he consorted with the beasts of the field. 'He ate grass with the gazelles, he drank water with the cattle of the field, he amused himself with the animals of the water.' Out of this condition he was raised to true manhood by entering into relation with a woman, a priestess of Ishtar, who came to entice him. It was by finding a mate in her that he developed out of a being like the beasts into civilizable man. So, apparently, in the thought of the Heb. story, Adam was at first like Eabani, but no true mate was found for him among the beasts of the field. His manhood required a helpmeet of his own kind, bone of his bone, flesh of his flesh. Perhaps another Bab. element is the eating of the tree of life, which appears in the sequel of this story, the Fall of Man (Gn 3). This bears a certain resemblance to the Adapa myth, of which a copy was found among the Tell el-Amarna tablets. The cherubim also which God placed eastward of the Garden of Eden, appear to be of Bab. origin. The peculiar emphasis laid upon Assyria in the geography of the Garden of Eden, and apparently on a very early Assyria, when Ashur, and not Calah or Nineveh, was the capital of Assyria, when, in fact, the city of Ashur was Assyria (for the Tigris is here made to flow to the east of Assyria), leads one to ask whether the Bab. elements in this story were not largely, or in some part, mediated through Upper Mesopotamia, with which the ancestry of Israel was connected by a very strong tradition. Cf., further, COSMOGONY AND COSMOLOGY (Bab.).

But while the cosmogony of this story has evident connexions with Bab. thought, such connexions are ancient and remote. The characteristic colouring is evidently Palestinian. It is the native of a *bᵉ'ālāh* land, a land of the *ba'al*, like Palestine (where fertility comes directly from the rain sent down from heaven), not the native of a land like Babylonia (where fertility depends on the overflowing of the rivers), who gives us in Gn 2 the picture of the barrenness of the world before Jahweh Elohim sent rain and man tilled the ground. It is worthy of note that similarly, in the J version of the Flood story, the Flood was caused by the rain which Jahweh sent from heaven, not by the breaking out also of the waters of the abyss beneath.[2]

Another incidental evidence of the antiquity of the J cosmogony, in addition to the allusion to Assyria, is the relation of man to woman. It is not the woman who leaves father and mother to cleave to the man, but the man who leaves father and mother to cleave to his wife—an apparent survival of the old matriarchy, of which we also have an example in the Samson story, where the woman remains with her tribe or clan or family, and is visited by the man (Jg 15¹).

In general, we may say of the cosmogony contained in Gn 2 that it is based upon a primitive folklore developed in Palestine, going back to a very great antiquity, into which have been absorbed, at some time or another, by an indirect process, some elements of Bab. myth and legend, possibly coming through the Mesopotamian region, with which, according to tradition, the Israelitic ancestors were closely connected. In the form in which it has come down to us, it has been thoroughly Hebraized, above all in the monotheism of its conceptions. The Creation is due to Jahweh only. There is no other God mentioned. He is Elohim (God), albeit He is conceived of in a most anthropomorphic fashion. Growing upon Canaanite soil, rooting in the remote past, utilizing in its composition Bab.

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beneath the earth are assumed; it is only with the rain, which comes from above, from Jahweh Elohim, that we are concerned. Cf. Skinner, *ad loc.*

[1] This story is a man's story, *homo sexualis*. In general it is an interesting example of the methods of early thought. Man measures the universe by himself. He explains the relations of all about him by what he knows of himself. Woman depends upon man, and woman was made for man. She is a subordinate but very intimate part of himself. The rib is chosen for the material of her construction because ribs are relatively numerous, and therefore superfluous, in man's composition, while at the same time a rib belongs so much to the inward part of man, so to speak, as to establish by its use in the construction of woman the most intimate relation with himself.

[1] In the most original Heb. traditions the abode of God (Jaho) was in the south, in Sinai, or Horeb (cf. *e.g.* Jg 5⁵, Ex 19¹¹); but, by a borrowing apparently from Can. traditions (ultimately derived, probably, from Babylonia), it is also placed in the mountain of the north (cf. Ps 46, Ezk 1), as is the account of the Deluge (Gn 7 ff.).

[2] Cf., for the latter, the P version of the Flood story (Gn 7¹¹).

material indirectly derived, it shows, in the last stages of its development, the high, spiritual thought of the Prophetic narrators of the 9th and 8th cent. B.C., who paved the way for the great writing prophets of the succeeding centuries.

The story was evidently popular among the Hebrews, not on the side of what may be properly called its cosmogony, but for its account of the Garden of God in Eden and the Fall of man, which we find particularly used in later literature in the Book of Ezekiel (cf., for instance, ch. 28, and the other chapters dealing with the fall of Tyre). It is this element also which has profoundly influenced Christian thought. The cosmogony proper is negligible in its influence on later thought, and is manifestly in itself very incomplete.

2. Cosmogonic myths in Hebrew literature.—A more complete and more systematic cosmogony is contained in Gn 1. The composition of this chapter dates probably from the early post-exilic period, but it is founded on old myths, which appear in much older passages, and which display a striking similarity to the cosmogonic myths of Babylonia. Some of these passages it is worth while to consider before we analyze the more systematic and elaborate cosmogony of Gn 1.

Ps 89^{7-14} is an old passage, of Galilæan origin (as is shown clearly by the use, in v.^{12}, of Tabor and Hermon as landmarks of north and south), now forming part of a later Psalm. This is one of those Psalms whose words imply a polytheistic conception: 'Who among the clouds is like unto Jahweh, is equal to Jahweh among the sons of the gods?' Jahweh is described as ruling the waves of the sea, stilling the tumult of its billows. He has smitten and contemptuously treated Rahab. With His strong arm He has scattered His foes. This is referred to as a part of the Creation work by which He founded the heavens and the earth, the world and its fullness, Creation being depicted as connected with a battle of Jahweh against some monster, here called Rahab, and its allies, who are foes of God or of the gods.

Ps 74^{12-17} is similarly an ancient passage, apparently of north Israelitic origin,[1] in a Psalm which, in its later form, is Maccabæan. Here God is described as having, in olden time, done wonderful works in the midst of the earth. He divided the sea by His strength, He smote the heads of dragons or sea-monsters on the waters, He crushed the heads of Leviathan and gave him for food to the jackals—a more specific note of that contemptuous treatment to which there is reference in Ps 89. That this is part of a Creation-myth is shown by the following description, where, as the result of this battle with the sea-dragons and Leviathan, God digs out the fountains and the valleys in which their waters run, dries up the primitive rivers, forms night and day, moon and sun, establishes the boundaries of the earth, etc.

The Book of Job, while itself of relatively late origin, is notably full of old traits. In it we find a number of references to mythical monsters, with whom God contended in connexion with the creation of the world. Of these the most noteworthy perhaps is Job $26^{12f.}$:

> 'With his strength he troubled the sea,
> And with his skill he pierced Rahab.
> His wind spread out heaven,
> His hand slew flying serpent.'

We have here two monsters—Rahab (connected with the sea) and flying serpent (connected with the heavens). The battle with the sea, indicated in the first line, is connected with the piercing of Rahab; and bound up with this is the spreading out of heaven by His wind, and the slaughter, apparently in heaven, of another monster.

Chapters 40 and 41 deal much more fully with two monsters, here, however, differently named—Behemoth, whose home is on the dry land, and the much more dreadful Leviathan, which inhabits the deep. These monsters were evidently well known in Heb. tradition of a later date. Thus, in 2 Es 6^{49-52} we have a description of two living creatures which God preserved on the fifth day of creation—Behemoth and Leviathan—to the former of whom He gave as his habitation a part of the dry land whereon are a thousand hills, while to the latter He gave that seventh part of the earth occupied by the sea. In Enoch 60^{7-9} we find the same two monsters, with the further note that Behemoth, who occupies the barren waste, is a male, while Leviathan, the monster of the abyss, over the source of the waters, is a female. Enoch 54^{8} corresponds somewhat more closely with the account of the two animals in Job, in that it describes the water which is above the heavens as male, and the water which is under the earth as female. In Job 7^{12} and 9^{13} we have incidental references to a sea-monster of the deep called in one place 'dragon,' תַּנִּין,[1] and in the other Rahab,[2] which, with its allies, has been overcome by God and imprisoned by Him. In ch. 38 there is no mention of the monsters, but of a struggle of God with the deep itself (v.$^{7f.}$): 'When the morning stars sang together, and all the sons of God shouted for joy: when God shut up the sea with doors, fastening it in with bars and gates.' According to the cosmogonic ideas of this book, 'God spread out the sky, strong as a molten mirror' (37^{18}); this rests upon pillars (26^{11}), and above it are the waters held up by the clouds (v.^{8}): the earth rests upon a chaos of waters or a great sea (v.^{7}); in the bowels of the earth is Sheol or Abaddon (v.^{6}). Waters are closely connected with darkness, and both those above and those below the earth form the habitation of monsters.

Abundant other references, early and late, show this to be certainly a very wide-spread view of the origin of the world among the Hebrews and later Jews. There are, however, slight variants of this general view, and the monsters of the deep are called by different names. The deep itself and the chaos to which the original deep belonged are designated sometimes merely by words expressing the sea, at other times by more technical titles; and the same is true of the monsters of chaos or the deep.

The ancient myth is applied also to historical events, very much as we may find parts of the *Nibelungenlied* mixed up with actual historical events of mediæval history, or in Babylonian literature events of the history of Erech combined with the Epic of Gilgamesh.[3] In Is 51^{9} the delivery from Egypt is described in terms of the old cosmogonic myth: 'The arm of Jahweh cut Rahab in pieces, pierced the dragon.' In Is 30^{7} Egypt is called Rahab because 'she helpeth in vain.' In Ps 87^{4} and elsewhere we find the same use. The myth is also applied eschatologically. As God once created the earth after destroying the monsters of chaos, so He shall again, out of a world reduced to chaos because of the wickedness of man, re-create a new earth and a new heaven by the same means (cf. the late Isaianic Apocalypse, Is 24–27). Here, however, we have (27^{1}) three monsters: Leviathan the swift serpent or flying serpent (which appears to be alluded to in Job 3^{8}, inhabiting the waters above the firmament and causing the eclipse); Leviathan the crooked serpent, which is the sea encircling the earth; and the dragon in the depths of the sea, which is the serpent of Am 9^{3}.

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[1] Cf., among other things, the almost exclusive reference in the Asaph Psalter to Jacob, Joseph, and Benjamin, and the use of Elohim instead of Jahweh—differentiating this collection, or rather these collections, from the first book of Psalms, precisely as E is differentiated from J in the Pentateuch.

[1] See also Ezk 29^{3-6a}, Ps-Sol 2^{29b-34}. In Ezekiel the dragon-myth is used in describing the fate of Egypt, and in the Psalms of Solomon, of Pompey; but in both cases the ancient myth is clearly in mind.

[2] In Ps $40^{5[4]}$ the plural of this, *rᵉhābîm*, appears to mean 'false gods'; and *tōhû* is used in the same sense in 1 S 12^{21} and Is 41^{29}.

[3] Folk-lore frequently exhibits this phenomenon. So, for instance, in the Wendish Spreewald one finds old fairy tales, identical with those collected by Grimm, told about Frederich the Great, Ziethen, and others of the same period.

In a somewhat similar picture of the reduction of the earth to chaos through the wrath of God, in Jer $4^{23ff.}$, birds, men, and beasts are destroyed; mountains and hills lose their solidity and shake to and fro; the light of the heavens is turned into darkness; and the earth becomes waste and void —*tōhû* and *bōhû*—the technical words for 'chaos' used in Gn 1^{2}.

Out of these various references we may reconstruct the general cosmogonic conception of the Hebrews: first, a condition of chaos and darkness, a waste of waters, inhabited by monstrous and noxious forms; then a battle of Jahweh, with the approval and rejoicing of the gods (divine or semi-divine beings, stars, etc.), against the deep and the monsters of chaos, in which in some way He uses the wind. By means of this He spreads out a firmament above, resting upon pillars, provided with windows,[1] through which the waters above may be let down upon the earth. Beneath, upon the great void, He spreads the earth, a dwelling-place for living things, under which is the sea or abyss (*tᵉhôm*).[2] In this abyss, as also in the heights above, still dwell great monsters, whom the Lord has preserved there, whom no other than He can control, and who are dangerous and noxious to men and to the works of men.

This was not only the cosmogonic thought of the Hebrews; it also constituted an element of their religion, and was represented in their ritual and religious paraphernalia. So, in the temple of Solomon was a great laver, the so-called 'sea,' representing the *tᵉhôm*;[3] and on the candlesticks of Herod's temple, as represented on Titus' Arch at Rome, are apparently pictured the monsters of that *tᵉhôm* which Jahweh had overcome.[4]

This cosmogony clearly is closely related to that of Babylonia, where we have the same contest of Marduk (acting for the other gods, whom he thereby largely supplants) with a great female monster, *Tiamāt*,[5] which is by root the same as the Heb. *tᵉhôm*. This monster he splits in two, after inflating her with a great wind. He reduces her various allies to submission, and, after treating her corpse with contumely, he divides it into two parts, out of one of which he makes the heaven, and out of the other the earth, the waters being thus separated into two great seas, the one above the firmament of heaven and the other beneath the earth.

3. Systematized cosmogony of the Priestly Code.—The Bab. cosmogony, as we know it in the cuneiform texts, is contained in seven tablets. Similarly the systematized cosmogony of the Heb. Priestly Code (Gn 1–2^{4}), which formulates and develops in a scientific and exact manner the popular belief, is divided into seven days.

This cosmogony commences with the description of a condition where the earth was *tōhû* and *bōhû* (*i.e.* chaos)—two words evidently handed down from antiquity. This chaotic condition is further described as 'darkness upon the face of *tᵉhôm*.' *Tᵉhôm*, as already stated, is radically identical with the Bab. *Tiamāt* (here used without the article), and is evidently, like *tōhû* and *bōhû*, a technical term of the cosmogonic myth. Following this description of the condition of darkness, chaos, and enormity, the narrative proceeds: 'The wind of God was rushing upon the face of the waters.'[1] Here perhaps we have a remnant of the myth which represents Marduk using the wind as his weapon against Tiamāt.

Having thus condensed the mythical material, which bulks so largely in the Bab. story, and which evidently played an equally important part in the common Jewish cosmogony, and having altogether eliminated its polytheism, the Priestly narrator then proceeds on a higher plane to describe Creation as a result of seven utterances of God. The order of these creative utterances may be supposed to coincide in general with that of the Bab. seven tablets, although this cannot be stated certainly, owing to the fragmentary condition of those tablets.

First came light; second, the firmament in the midst of the waters, to divide the waters beneath from the waters above; third, the separation of dry land and the springing of verdure, trees, and the like upon the earth; fourth, the creation of sun, moon, and stars, which are set in the heavens, both to give light and to rule the day and the night—the latter, perhaps, containing a trace of the polytheistic conception of the old astral worship, which it is intended to correct by stating that these rulers of day and night are creations of God; fifth, the creatures of the sea and the birds of the air, both of them created out of water, among which it is noteworthy that the writer recognizes the continued existence of the great sea-monsters, dragons, serpents, etc., of the popular belief (v.^{21}), included in Job, Enoch, and Esdras, under the titles Behemoth and Leviathan. The sixth day covers the creation of the creatures of the earth and of man. In the note of the creation of man (v.^{26}) we have a remnant of the more primitive anthropomorphic conception of God, of which the writer could not readily divest himself, in the statement that man was made in the image of God; and perhaps also an echo of the earlier polytheism in the words put in the mouth of Elohim: 'Let us make man in *our* image.' Not that the writer means to speak of more than one God of Israel, but he cannot yet altogether divest himself of the thought of a plurality of gods in human shape. The resting of God on the seventh day, and the establishment in connexion with that of an eternal Sabbath, are peculiarly Hebrew; for, although a rudimentary Sabbath existed among the Babylonians, it played no important part in Bab. religion or mythology. The seventh tablet of the Babylonian Creation-series, with which in Hebrew corresponds the establishment of the Sabbath as a part of Creation itself, contains a hymn of praise to Marduk as the creator.

The question arises, To what extent was this cosmogony based on Bab. ideas? We have already seen that, in general, it is a statement, in precise, scientific, monotheistic, and unmythological form, of cosmogonic views prevailing among the people of Israel from an early period. Certain resemblances have also been pointed out between those cosmogonic myths and the cosmogonic myths of the Babylonians. It would seem that at some early period Bab. cosmogony became known to the people of Palestine. The general view at present is that, in some form, locally modified, the Bab. cosmogony became the common property of Palestine and surrounding regions during the centuries of predominating Bab. influence in the West (*c.* 2000 B.C.), and that the Hebrews adopted that cosmogony, in whole or in part, gradually modifying it to fit into their religion,[2] eliminating the polytheistic and grosser traits, and spiritualizing and rationalizing the residue. The cosmogonic myth, accordingly, pursued the same course as almost everything else in Hebrew ritual and religion. The cosmogony in Gn 1 represents the final stage of its development, when the effort was made to rid it altogether of its grosser and polytheistic elements, to spiritualize it, and to fit it into the new scheme of the purified and reformed religion of Israel, which the priestly schools of the Captivity sought to establish. The final author may possibly have been affected directly by Bab. models to the extent that he adopted from the seven tablets his arrangement by seven days; but even this seems improbable, for the seven-day system was already in existence in Israel, and constituted an integral part of its religion. The Bab. seven tablets of Creation were ancient. Their 'sevenness' is an element which would naturally have impressed any people, but especially one regarding the number seven as holy; and, while there is no other evidence in the Biblical passages, indicating acquaintance with the cosmogonic myth, of knowledge of this 'sevenness,' it nevertheless seems more probable that it formed part of the popular scheme of cosmogony,[1] even though the events of the days of Creation may not coincide altogether with the order of events in the Bab. tablets, than that it was borrowed by the Priestly Code from the Babylonians. The author of the Priestly Code cosmogony was concerned rather with those things which differentiate the Heb. from the Bab. versions of the cosmogony. And, indeed, the difference between the two is far more striking than the resemblance. It is wonderful how out of the fantastical, puerile, and gross fancies of the Bab. original there has been developed so sane, so lofty, and so spiritual a system of cosmogony as that contained in Gn 1–2^{4}.

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[1] Cf. Gn 7^{11}, 2 K $7^{2.19}$, Ps 78^{23}.

[2] Gn 7^{11} 49^{25}, Dt 33^{13}, Ps 42^{7} 78^{15}, Pr 8^{20}.

[3] 1 K 7^{23}, interpreted by comparison with Bab. use.

[4] Cf. the similar use in Bab. temples.

[5] In the Bab. myth we have also *apsu*, 'sea,' as a technical term or name. At least once in Hebrew (Is 40^{17}) the corresponding root אפס has the same sense.

[1] Commonly rendered 'the spirit of God was brooding,' etc. This rendering of the Heb. מְרַחֶפֶת is suggested by a supposed connexion with an Aram. root. In Hebrew it occurs elsewhere only in Dt 32^{11}, in a description of the vulture teaching its young to fly, where it has been translated 'hovering.' This is manifestly incorrect (but see Skinner on Gn 1^{2}). The parent birds do not hover over the young when turning them out of the nest to fly for themselves, but make rushes at them, and away from them. The LXX has preserved the correct tr. of the word מְרַחֶפֶת of Gn 1^{2}, viz. ἐπεφέρετο, 'was rushing upon.' This agrees with other references in Heb. literature to the use by God of wind in creation (see above), and also agrees with the Bab. myth.

[2] Unfortunately we lack, up to the present time, a sufficient knowledge of Phœnician cosmogony and the cosmogony of other neighbouring peoples to prove or disprove this theory. True, certain fragments of Phœn. cosmogony have come down to us, claimed to be the relics of the writings of a certain Sanchuniathon; but, in the first place, it is very doubtful whether such a man ever existed, and, in the second place, what has been handed down has reached us in such a form that it is almost impossible to determine its origins and connexions. We do find, however, in Phœn. cosmogony, a creature, *Tauthe*, which is the same as *Tiamāt* and the Heb. *tᵉhôm*, and a *Bau*, which appears to be the Hebrew *bōhû*; to that extent Phœn. remains may be said to support this hypothesis.

4. Cosmogony of J compared with popular cosmogony and cosmogony of P.—How does it happen that two cosmogonies so radically different in conception continued to exist side by side? As already pointed out, ch. 2 deals, not with the creation of the world, but with the problems of man. It finds him on the barren hills of Judæa. It does not concern itself with their creation, but with the manner in which they are made habitable, and the problems of the men who inhabited them, who had been driven out, for their sins, from the beautiful Garden of God in the fertile far east, to live on, and to till, this land of thorns and thistles. Had the narrator been asked how the dry land, the heavens, etc., came into existence, he would doubtless, incompatible as the two things seem to us, have told of a contest of Jahweh with chaos and the monsters of the deep, and the formation of an earth resting on the great deep, with the solid firmament of heaven above, and the waters still above that—substantially the scheme described in Gn 1, though not in the same systematized and highly developed form. Theoretically he believed in a deep beneath the earth, as is shown in the fountain from which a stream came out and watered the Garden of God, being the source of all the rivers of the world. But practically this deep was negligible in Judæa, where one must look to Jahweh for water from heaven; and so even in the Flood-story of J the water comes down only from above.

5. The highest and final Hebrew thought concerning Creation.—The cosmogony of Gn 1–2^{4}, lofty as it is in its monotheistic conception of the power of God, did not reach the highest limits of Hebrew thought. Hampered by the old myths, it stood perilously near dualism in reckoning chaos, darkness, and the deep as existing, independently of God, from eternity. There were men of the same period, but of a different school of thought, with prophetic vision, and a higher, less hampered spirituality, who had perceived and were teaching a still higher thought, namely, that God was the Creator of darkness as well as of light, of chaos as well as of order, of evil as well as of good. Deutero-Isaiah was familiar, as we have seen, with the popular cosmogonic myths, and apparently also with the more formal cosmogony ultimately formulated in Gn 1–2^{4}; but its fundamental conception of the opposition of chaos, darkness, and the deep to God he utterly rejects. 'I am Jahweh, and there is none else, forming light and creating darkness, making prosperity and creating evil' (Is 45$^{6f.}$). This is the highest expression of the creative thought in the Old Testament. In Pr 8$^{23-31}$ Creation is an expression of the wisdom of God, which is almost hypostatized. In some of the late Psalms we have very beautiful and spiritual conceptions of Creation, especially in Ps 104,[1] but in principle these are only poetic liberties with the cosmogony of Gn 1. More and more this cosmogony became an essential part of the religion of the Jews, on which Judaism and Christianity, almost up to the present time, have founded literally their conception of the creation of the world. Along with this also some of the old mythological conceptions continued to linger on.[2] Indeed, there is nothing in Gn 1 to forbid them, and, as we have seen, the writer of v.^{21} evidently himself believed in the existence of the mythical monsters of the deep. What part these played in later Judaism one may see from the Book of Esdras and from Enoch, which have already been quoted, and finally even from the Apocalypse in the New Testament, many of the images and concepts in which, particularly in chs. 12, 13, 17, 21, reflect the ancient mythology of the battle of the representative of the gods with the dragons and monsters of chaos and the deep.

LITERATURE.—The OT commentaries, especially those of Delitzsch (Eng. tr., Edinburgh, 1888–89), Dillmann, (Eng. tr., Edinburgh, 1897), Holzinger (Freiburg, 1898), Gunkel^{2} (Göttingen, 1902), Driver^{7} (London, 1909), Ayles (New York, 1904), and Skinner (Edinburgh, 1910), on *Genesis*; A. B. Davidson (London, 1862), Dillmann^{4} (Leipzig, 1891), Budde (Göttingen, 1896), and Duhm (Freiburg, 1897), on *Job*; Cheyne^{3} (London, 1886), Dillmann-Kittel (Leipzig, 1898), Marti (Tübingen, 1900), and Duhm^{2} (Göttingen, 1902), on *Isaiah*; Bertholet (Freiburg, 1897) and Kraetzschmar (Göttingen, 1900), on *Ezekiel*. Cf. also artt. 'Cosmogony,' 'Rahab,' 'Sea-monster,' in *HDB*; 'Behemoth and Leviathan' and 'Dragon,' in *EBi*; H. Gunkel, *Schöpfung u. Chaos*, Gött. 1895, esp. pp. 29–90; F. Weber, *Jüd. Theol.*^{2}, Leipz. 1897, pp. 160, 202, 402, 404; K. Budde, *Bibl. Urgeschichte*, Giessen, 1883; W. Baudissin, *Stud. z. sem. Religionsgesch.*, Leipz. 1876–78; H. Gressmann, *Altorient. Texte u. Bilder z. AT*, Tüb. 1909; M. J. Lagrange, *Études sur les rel. sém.*^{2}, Paris, 1905; J. P. Peters, *Early Heb. Story*, London, 1904.

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COSMOGONY AND COSMOLOGY (Indian).

—Cosmological speculations were, in India as elsewhere, the first manifestation of philosophical thought; they are already met with in the Rig-veda, in single verses as well as in entire hymns. The basis of these speculations, in the Vedic period, was not a generally adopted theory or mythological conception as to the origin of the world; widely differing ideas about this problem seem to have been current, which the more philosophically minded poets developed and combined. There is a kind of progress from crude and unconnected notions to more refined ideas and broader views; but this development did not lead to a well-established cosmogony such as we find in the first chapter of Genesis. A similar variety of opinion prevailed also in the period of the Brāhmaṇas and Upaniṣads, though there is an apparent tendency towards closer agreement. Uniformity, however, was never achieved, even in the Purāṇas; for all statements, however contradictory, contained in the revealed literature were regarded as truth, and might be reproduced by later writers. Cosmography, on the other hand, had another fate. Different writers of the same period are much more nearly at one regarding the plan and structure of the Universe, at least in its main outlines, than regarding its origin and development; but it goes without saying that both sets of ideas—cosmogonic as well as cosmographic—are equally fanciful, and lack the basis of well-ascertained facts.

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[1] Cf., for instance, the form of the Fourth Commandment in Ex 20, which, however far removed from the form of the original 'Word,' is at least much earlier than the Priestly Code.

[1] Cf. also Ps 33$^{6f.}$.

[2] Ps 148^{7}.

1. Vedic period.—The world, according to Vedic notions, consists of three parts—earth, air, and sky, or heaven. But, when the idea of 'Universe' is to be expressed, the phrase most commonly used is 'heaven and earth.' Both Heaven and Earth are regarded as gods and as the parents of gods (*devaputra*), even although they are said to have been generated by gods. Sometimes one god,—Indra, or Agni, or Rudra, or Soma,—sometimes all the gods together, are said to have generated or created heaven and earth, the whole world; and the act of creating is metaphorically expressed as building, sacrificing, or weaving. That heaven and earth should be parents of the gods, and at the same time have been generated by them, is a downright self-contradiction; but it seems to have only enhanced the mystery of this conception without lessening its value, since it recurs even in advanced speculation. It is avoided in the declaration that mother Aditi is everything, and brings forth everything by and from herself, though in another place it is said that Aditi brought forth Dakṣa, and Dakṣa generated Aditi. Here Aditi is apparently a mythological expression for the female principle in creation, and Dakṣa for the male principle or creative force. The latter is more directly called Puruṣa, man or male spirit, and is conceived as the primeval male who is transformed, or who transforms himself, into the world. To him is dedicated the famous *Puruṣasūkta*, Rigveda, x. 90, which recurs, with variations, in the *Atharvaveda* (xix. 6), the *Vājasaneyi Saṁhitā* (xxxi.), and the *Taittirīya Āraṇyaka* (iii. 12), and greatly influenced later theosophical speculation. As a specimen of Vedic cosmogony we subjoin Muir's translation of it (from *Orig. Skr. Texts*, v. 368 ff.), though it, or rather the original, contains many obscure points:

> 'Puruṣa has a thousand heads, a thousand eyes, and a thousand feet. On every side enveloping the earth, he transcended [it] by a space of ten fingers (1). Puruṣa himself is this whole [universe], whatever has been, and whatever shall be. He is also the lord of immortality, since through food he expands (2). Such is his greatness; and Puruṣa is superior to this. And existing things are a quarter (or foot) of him, and that which is immortal in the sky is three-quarters of him (3). With three-quarters Puruṣa mounted upwards. A quarter of him again was produced here below. He then became diffused everywhere among things animate and inanimate (4). From him Virāj was born, and from Virāj, Puruṣa. As soon as he was born, he extended beyond the earth, both behind and before (5). When the gods offered up Puruṣa as a sacrifice, the spring was its clarified butter, summer its fuel, and autumn the [accompanying] oblation (6). This victim, Puruṣa born in the beginning, they immolated on the sacrificial grass; with him as their offering, the gods, Sādhyas, and Riṣis sacrificed (7). From that universal oblation were produced curds and clarified butter. He (Puruṣa) formed those aerial creatures, and the animals, both wild and tame (8). From that universal sacrifice sprang the hymns called Rich and Sāman, the metres, and the Yajus (9). From it were produced horses, and all animals with two rows of teeth, cows, goats, and sheep (10). When they divided Puruṣa, into how many parts did they distribute him? What was his mouth? What were his arms? What were called his thighs and feet? (11). The Brāhmaṇa was his mouth; the Rājanya became his arms; the Vaiśya his thighs; the Śūdra sprang from his feet (12). The moon was produced from his soul; the sun from his eye; Indra and Agni from his mouth; and Vāyu from his breath (13). From his navel came the atmosphere; from his head arose the sky; from his feet came the earth; from his ear the four quarters; so they formed the worlds (14). When the gods, in performing their sacrifice, bound Puruṣa as a victim, there were seven pieces of wood laid for him round the fire, and thrice seven pieces of fuel employed (15). With sacrifice the gods worshipped the sacrifice. These were the first institutions. These great beings attained to the heaven where the gods, the ancient Sādhyas, reside (16).'

The unity of the Godhead as the cause of the world, which is recognized in the above hymn, is directly expressed in others where he is called the One, the Unborn, and placed above all gods. In two hymns (Rigveda, x. 81, 82) he is invoked under the name Viśvakarman, 'All-creator,' who in later mythology became the architect of the gods; in another remarkable hymn (x. 121) the poet inquires who is the first-born god that created the world and upholds it, and in the last verse he invokes him as Prajāpati, 'Lord of the creatures.' Prajāpati later became the current designation of the creator, and synonymous with Brahmā. In connexion with Viśvakarman and Prajāpati occurs what seems to be an ancient mythological conception: the highest god is said to have originated in the primeval waters as the Golden Germ (*Hiraṇyagarbha*) which contained all the gods and the world, or became the creator. This idea was afterwards developed to that of the world-egg, and of Hiraṇyagarbha = Brahmā.

An entirely different treatment of the cosmological problem is contained in the philosophical hymn, Rigveda, x. 129 (cf. *Taittirīya Brāhmaṇa*, ii. 8, 9, 3–6), which, for depth of speculation, is one of the most admirable poems of the Rigveda. Notwithstanding the labour of many ingenious interpreters, the meaning of some passages still remains doubtful; yet a general idea of its contents may be got from the subjoined metrical translation of Muir (*op. cit.* v. 356, note 530):

> 'Then there was neither Aught nor Nought, no air nor sky, beyond.
> What covered all? Where rested all? In watery gulf profound?
> Nor death was then, nor deathlessness, nor change of night and day.
> That One breathed calmly, self-sustained; nought else beyond It lay.
> Gloom hid in gloom existed first—one sea, eluding view.
> That One, a void in chaos wrapt, by inward fervour grew.
> Within It first arose desire, the primal germ of mind,
> Which Nothing with Existence links, as sages searching find.
> The kindling ray that shot across the dark and drear abyss,—
> Was it beneath? or high aloft? What bard can answer this?
> There fecundating powers were found, and mighty forces strove,—
> A self-supporting mass beneath, and energy above.
> Who knows, who ever told, from whence this vast creation rose?
> No gods had then been born,—who then can e'er the truth disclose?
> Whence sprang this world, and whether framed by hand divine or no,—
> Its lord in heaven alone can tell, if even he can show.'

In the *Atharvaveda* we meet with some cosmological hymns, chiefly of the Prajāpati type, in which the highest god and creator is conceived under other forms, and invoked under various names, such as Rohita (the red one), Anaḍvān (the ox), Vaśā (the cow), Kāla (time), Kāma (desire), etc.

LITERATURE.—J. Muir, *Orig. Sanskrit Texts*, London, 1858–72, iv. ch. 1, v. sect. xxi.; L. Scherman, *Philos. Hymnen aus der Rig- und Atharva-veda-Sanhitā*, Strassburg, 1887; P. Deussen, *Allgem. Gesch. der Philosophie*, i.² 1 (Leipzig, 1906); K. F. Geldner, 'Zur Kosmogonie des Rigveda' (*Universitätsschrift zur feierlichen Einführung des Rektors*, Marburg, 1908).

2. Period of the Brāhmaṇas and the Upaniṣads.—The Brāhmaṇas contain many legends about Prajāpati's creating of the world. They usually open with some statement like the following: 'In the beginning was Prajāpati, nothing but Prajāpati; he desired, "May I become many"; he performed austerities, and thereby created these worlds' (either the living beings, or heaven, air, and earth). Besides Prajāpati, other names of the creator are met with: Svayaṁbhū Nārāyaṇa, Svayaṁbhū Brahman, and even Non-Being. The authors of the Brāhmaṇas, being wholly engrossed with liturgy and ceremonial, introduce these legends in order to explain some detail of ritual or the like; and therefore, after a few general remarks on the creation of the world, they plunge again into ritualistic discussions (see the specimens given by Deussen, *op. cit.* p. 183 ff.). But the little information they give is sufficient to show what were in their time the popular opinions about the origin of the world. Besides the statement that Prajāpati was at the beginning of things, there are others, according to which the waters seem to have been believed to be coeval with him or to have preceded him. Thus it is said (*Taittirīya Saṁhitā*, v. 6, 4, 2, and similarly vii. 1, 5, 1) that in the beginning there was nothing but the waters, and Prajāpati, as wind, went over them or floated on a lotus leaf. Connected with this order of ideas is the now more fully developed conception of the world-egg in *Śatapatha Brāhmaṇa*, xi. 1, 6, 1 ff., which runs thus in Muir's translation (iv. 25):

'In the beginning this universe was water, nothing but water. The waters desired, "How can we be reproduced?" So saying, they toiled, they performed austerity. While they were performing austerity, a golden egg came into existence. Being produced, it then became a year. Wherefore this golden egg floated about for the period of a year. From it in a year a male (*puruṣa*) came into existence, who was Prajāpati. . . . He divided this golden egg. . . . In a year he desired to speak. He uttered "*bhūr*," which became this earth; "*bhuvaḥ*," which became this firmament; and "*svar*," which became that sky. . . . He was born with a life of a thousand years. He perceived the further end of his life as one may perceive the opposite bank of a river. Desiring offspring, he went on worshipping and toiling. He conceived progeny in himself; with his mouth he created the gods,' etc.

We append, for the sake of comparison, another ancient account of the world-egg from the *Chhāndogya Upaniṣad*, iii. 19 (*SBE* i. 54 f.): 'In the beginning this was non-existent. It became existent, it grew. It turned into an egg. The egg lay for the time of a year. The egg broke open. The two halves were one of silver, the other of gold. The silver one became this earth, the golden one the sky, the thick membrane (of the white) the mountains, the thin membrane (of the yolk) the mist with the clouds, the small veins the rivers, the fluid the sea. And what was born from it was Āditya, the sun,' etc.

While the authors of the Brāhmaṇas treated cosmogonic myths from their liturgical point of view, the authors of the Upaniṣads used them in order to illustrate their great philosophical tenet of the transcendent oneness of Brahman and its presence in all created things. Accordingly, they frequently substitute for Prajāpati philosophical abstractions, *e.g.* Brahman, Ātman, Not-Being, or Being, and derive from this first principle the worlds, or the Vedas, or those cosmical and psychical agencies which chiefly engross their speculations. They develop and combine these notions in ever-varying ways; but it is to be understood, or it is expressly stated, that the first principle, after having created things, entered them, so that it is present in them, and, in a way, is identical with, and yet different from, them. It is impossible to reduce the variety of opinion on the origin of the world, contained in the Upaniṣads, to one general idea underlying them; we shall, therefore, illustrate them by some selected specimens.

In *Bṛhad Āraṇyaka*, i. 4, the creation is ascribed to Ātman in the shape of a man (*puruṣa*); as there was nothing but himself, he felt no delight, and therefore 'made this his Self to fall in two, and thence arose husband and wife.' He embraced her, and men were born. In the same way he created all beings that exist in pairs. Then he created other things, developed them by name and form, and 'entered thither, to the very tips of the finger-nails, as a razor might be fitted in a razor-case, or as fire in a fire-place' (*SBE* xv. 87). The account of the world-egg in the *Chhāndogya Upaniṣad* has already been quoted above. Of a less mythological and more speculative character is a passage in *Taittirīya Upaniṣad*, ii. 1, according to which from this Self (Brahman) sprang space, from space wind, from wind fire, from fire water, from water earth, from earth food, from food seed, men, and all creatures. An older account in *Chhāndogya Upaniṣad*, vi. 2, 2 f., mentions only three elements; it runs thus (*SBE* i. 93 ff.):

(Uddālaka speaks to Śvetaketu): 'In the beginning, my dear, there was that only which is (τὸ ὄν), one only, without a second. Others say, in the beginning there was that only which is not (τὸ μὴ ὄν), one only, without a second; and from that which is not, that which is was born.' 'But how could it be thus, my dear?' the father continued. 'How could that which is, be born of that which is not? No, my dear, only that which is, was in the beginning, one only, without a second. It thought, "May I be many, may I grow forth." It sent forth fire. That fire thought, "May I be many, may I grow forth." It sent forth water. And therefore whenever anybody anywhere is hot and perspires, water is produced on him from fire alone. Water thought, "May I be many, may I grow forth." It sent forth earth (food). Therefore whenever it rains anywhere, most food is then produced. From water alone is eatable food produced. . . . That Being (*i.e.* that which had produced fire, water, and earth) thought, "Let me now enter those three beings (fire, water, earth) with this living Self (*jīva ātmā*), and let me then reveal (develop) names and forms." Then that Being, having said, "Let me make each of these three tripartite" (so that fire, water, and earth should each have itself for its principal ingredient, besides an admixture of the other two), entered into those three beings with this living self only, and revealed names and forms,' etc.

Here we have the first forerunner of Sāṅkhya ideas, which are more fully developed in the *Śvetāśvatara* and some later Upaniṣads which form the connecting link between this period and that of the Epics and Purāṇas. The genesis of the evolutionary theory of Sāṅkhya can be traced to these Upaniṣads (see Deussen, *op. cit.* i. 2, p. 216); but we pass this subject over here, as it will be treated in § 3.

The notions as to the *structure of the Universe* entertained by the Vedic poets continued to prevail in the period of the Brāhmaṇas and Upaniṣads, where frequently the Universe is spoken of as tripartite: earth, air, and sky, symbolized in the three 'great utterances' (*vyāhṛtis*), '*bhūr*,' '*bhuvaḥ*,' '*svar*.' In *Aitareya Āraṇyaka*, ii. 4, 1, however, it is said that in the beginning the Self sent forth the worlds of Ambhas, Marīchi, Mara, and Ap. 'That Ambhas (water) is above the heaven, and it is heaven, the support. The Marīchis (the lights) are the sky. The Mara (mortal) is the earth, and the waters under the earth are the Ap world.' Nine or ten worlds are enumerated in *Bṛhad Āraṇyaka Upaniṣad*, iii. 6, viz. the worlds of wind, air, Gandharvas, sun, moon, stars, gods, Indra, Prajāpati, and Brahman;[1] each of these worlds is woven into the next higher one, 'like warp and woof.' More importance is attached to a sevenfold division of the world. This was introduced by the augmentation of the *vyāhṛtis* from three, the usual number, to seven, which number first occurs in *Taittirīya Āraṇyaka*, x. 27 f. There we find the following *vyāhṛtis*: '*bhūr*,' '*bhuvaḥ*,' '*svar*,' '*mahar*,' '*janas*,' '*tapas*,' and '*satyam*.' Now, as the three first, the original *vyāhṛtis* ('*bhūr*,' '*bhuvaḥ*,' '*svar*'), symbolically denoted the three worlds (earth, air, sky), so the four added *vyāhṛtis* ('*mahar*,' '*janas*,' '*tapas*,' '*satyam*') became names of still higher worlds. Thus, in some later Upaniṣads seven worlds are mentioned, and in the *Āruṇeya Upaniṣad* these seven worlds ('*bhūr*' . . . '*satyam*') are distinguished from seven nether worlds: Atala, Pātāla, Vitala, Sutala, Rasātala, Mahātala, and Talātala. This last conception of a twice sevenfold world was, in the next period, developed in detail.

3. Period of the Epics and the Purāṇas.—While in the preceding period cosmogonic myths are of an episodical character, the same subject is now treated more at length, and for its own sake. Its importance is fully recognized in the Purāṇas; for cosmogony and secondary creation—*i.e.* the successive destructions and renovations of the world—belong to the five characteristic topics (*pañchalakṣaṇa*) of the Purāṇas.

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[1] In the cosmography of the *Yogabhāṣya*, which will be dealt with in § 3, the names of the highest celestial spheres are Māhendra, Prājāpatya, and Brahmā.

The variety of views as to the origin of the world which obtained in the preceding periods still continues; but there is a decided tendency towards introducing some order. The mythological elements of cosmogony are mostly adopted from Vedic literature, and further developed; some are of more modern origin; both elements are variously combined. These mythological elements are as follows: (1) the highest godhead, Brahman or Ātman, identified with Nārāyaṇa, Viṣṇu, Śambhu, etc., according to the sectarian tendency of the author; (2) the primeval waters or darkness; (3) the Puruṣa or Hiraṇyagarbha, who sprang up therein; (4) the world-egg, which brought forth Brahmā (or Prajāpati, Pitāmaha); (5) the lotus, from which sprang Brahmā; the lotus itself came forth either from the waters or from the navel of Viṣṇu; (6) the intermediate creators, or mental sons of Brahmā, numbering seven or eight, Marīchi, etc.; (7) the successive creations and destructions of the world. Though the last-mentioned conception can be traced to a greater antiquity,[1] it was only then developed into a gigantic chronology of the world which reckoned by *kalpas*, *manvantaras*, and *yugas* (see art. AGES OF THE WORLD [Indian]). This system was employed in order to reconcile conflicting views on the origin of the world by assigning some cosmogonic processes to primary, some to secondary, creation, and by distinguishing the several secondary creations. But all these attempts at systematic order resulted in greater confusion, for primary and secondary creations were inextricably mixed up with one another. The framers of cosmogonic systems in the *Mahābhārata* and the Purāṇas freely laid under contribution the Sāṅkhya philosophy; they took over from it the evolutionary theory as taught by Kapila, or they tried to improve on it. As it formed the theoretical foundation of cosmogony, a brief sketch of it must be given here.

According to Sāṅkhya philosophy, there are two principles, entirely independent of each other: (1) the souls, *Puruṣas*; and (2) *Prakṛti*, original nature, or *Pradhāna* (principle, viz. matter), which is made up of the three *guṇas* (secondary elements)—darkness (*tamas*), activity (*rajas*), and goodness (*sattva*)—in the state of equipoise. When this equilibrium is disturbed through the presence (or co-inexistence) of the *Puruṣa*, then from *Prakṛti* is developed *Mahān* or *Buddhi*, the thinking substance, which chiefly consists of *sattva*. From *Buddhi* is developed *Ahaṁkāra*, a substance the function of which is to produce the conceit of individuality. *Ahaṁkāra* produces the mind (*manas*), the five organs of sense (*buddhīndriya*), the five organs of action (*karmendriya*), and the five subtle elements (*tanmātrā*). The last, combining with one another, form the five gross elements (*mahābhūta*): space (or air), fire, wind, water, and earth. These are the twenty-five principles (*tattvas*) of Sāṅkhya. They and the order of their production have been adopted, and adapted to the order of ideas taught in the Upaniṣads, by the authors of those parts of the *Mahābhārata* which deal with the evolution of the world. In trying to reconcile Vedic cosmogony with the principles of Sāṅkhya philosophy, those didactic poets invented various changes of the latter or of their arrangement, though none of these attempts was generally adopted. We shall mention only two points in which the epic writers departed from the Sāṅkhya system and, at the same time, disagreed among themselves. (1) The established belief in a first cause, Brahman or Ātman, was radically opposed to the Sāṅkhya doctrine of two mutually independent principles, *Puruṣa* and *Prakṛti*; yet both views had to be harmonized somehow. No wonder that opinion differed widely on this head. For instance, Puruṣa is identified with *Pradhāna*, or Hiraṇyagarbha with *Buddhi*, or Brahmā with *Ahaṁkāra*, etc. (2) The Sāṅkhya doctrine, which derived the elements from *Ahaṁkāra* through the interposition of the transcendent *tanmātrās*, seems to have been thought unduly abstruse by those poets who preached to a mixed audience. They therefore usually omit the *tanmātrās*, and make the *mahābhūtas* the direct product of *Ahaṁkāra*, just as in the Upaniṣads the elements are said to have sprung directly from Brahman. It is needless for our purpose to multiply instances; for details the reader is referred to E. Washburn Hopkins' work, *The Great Epic of India*, New York, 1901, in which epic philosophy is exhaustively treated (p. 85 ff.). It must, however, be stated that some scholars, *e.g.* Dahlmann,[1] and Deussen,[2] are of the opinion that epic Sāṅkhya represents a preliminary state of speculation, from which systematic Sāṅkhya was developed.

The cosmological passages of the Great Epic belong to an age of transition, and none of them seems ever to have been generally accepted as an authoritative exposition of the subject. It is, however, different with another document which may roughly be assigned to the same period—the cosmogonic account in the *Laws of Manu*, i. 5 ff.; for it (or parts of it) is quoted in a great number of mediæval works, and it may therefore serve to illustrate the state of the views on cosmogony which prevailed before the time when the Purāṇas took their present form. We quote here Bühler's translation in *SBE* xxv. 2 ff.

> 'This (universe) existed in the shape of Darkness, unperceived, destitute of distinctive marks, unattainable by reasoning, unknowable, wholly immersed, as it were, in deep sleep (5). Then the divine Self-existent (Svayaṁbhū, himself) indiscernible, (but) making (all) this, the great elements and the rest, discernible, appeared with irresistible (creative) power, dispelling the darkness (6). He who can be perceived by the internal organ (alone), who is subtile, indiscernible, and eternal, who contains all created beings and is inconceivable, shone forth of his own (will) (7). He, desiring to produce beings of many kinds from his own body, first with a thought created the waters, and placed his seed in them (8). That (seed) became a golden egg, in brilliancy equal to the sun; in that (egg) he himself was born as Brahman, the progenitor of the whole world (9). The waters are called *nārāḥ*, (for) the waters are, indeed, the offspring of Nara; as they were his first residence (*ayana*), he thence is named Nārāyaṇa (10). From that (first) cause, which is indiscernible, eternal, and both real and unreal, was produced that male (Puruṣa), who is famed in this world (under the appellation of) Brahman (11). The divine one resided in that egg during a whole year, then he himself by his thought (alone) divided it into two halves (12); and out of those two halves he formed heaven and earth, between them the middle sphere, the eight points of the horizon, and the eternal abode of the waters (13). From himself (*ātmanaḥ*) he also drew forth the mind, which is both real and unreal, likewise from the mind egoism, which possesses the function of self-consciousness (and is) lordly (14); moreover, the great one, the soul, and all (products) affected by the three qualities, and, in their order, the five organs which perceive the objects of sensation (15). But, joining minute particles even of those six, which possess measureless power, with particles of himself, he created all beings (16). Because those six (kinds of) minute particles, which form the (creator's) frame, enter (*ā-śri*) these (creatures), therefore the wise call his frame *śarira* (the body) (17). That the great elements enter, together with their functions and the mind, through its minute parts the framer of all beings, the imperishable one (18). But from minute body (-framing) particles of these seven very powerful Puruṣas springs this (world), the perishable from the imperishable (19). Among them, each (succeeding) element acquires the quality of the preceding one, and whatever place (in the sequence) each of them occupies, even so many qualities it is declared to possess (20). But in the beginning he assigned their several names, actions, and conditions to all (created beings), even according to the words of the Veda (21). He, the Lord, also created the class of the gods, who are endowed with life, and whose nature is action; and the subtile class of the Sādhyas, and the eternal sacrifice (22). But from fire, wind, and the sun he drew forth the threefold eternal Veda, called Rich, Yajus, and Sāman, for the due performance of the sacrifice (23). Time and the divisions of time,

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[1] It is found as early as the *Śvetāśvatara and Maitrāyaṇa Upaniṣads.*

[1] *Mahābhārata-Studien*, ii. 'Die Sāṃkhya-Philosophie,' Berlin, 1902.

[2] *Op. cit.* i. 3, p. 18.

the lunar mansions and the planets, the rivers, the oceans, the mountains, plains, and uneven ground (24), austerity, speech, pleasure, desire, and anger, this whole creation he likewise produced, as he desired to call these beings into existence (25). Moreover, in order to distinguish actions, he separated merit from demerit, and he caused the creatures to be affected by the pairs (of opposites), such as pain and pleasure (26). But with the minute perishable particles of the five (elements) which have been mentioned, this whole (world) is framed in due order (27). . . . But for the sake of the prosperity of the worlds, he caused the Brāhmaṇa, the Kṣatriya, the Vaiśya, and the Śūdra to proceed from his mouth, his arms, his thighs, and his feet (31). Dividing his own body, the Lord became half male and half female; with that female he produced Virāj (32).' From Virāj sprang Manu Svāyaṁbhu, who, 'desiring to produce created beings, performed very difficult austerities, and (thereby) called into existence ten great sages, lords of created beings—Marichi, Atri, Aṅgiras, Pulastya, Pulaha, Kratu, Prachetas, Vasiṣṭha, Bhṛgu, and Nārada (34, 35).' These secondary Prajāpatis created the other Manus, gods, demons, men, animals, plants, etc. Next comes the account of the destructions and secondary creations of the world, the days and nights of Brahmā, the system of *yugas* and *manvantaras*, etc. (For details, see AGES OF THE WORLD [Indian].)

A very full discussion of the cosmogony in Manu and its relation to the accounts in other sources will be found in W. Jahn, *Über die kosmogon. Grundanschauungen im Mānava-dharma-śāstram*, Leipzig, 1904.

Cosmogony in the Purāṇas, in the form in which they have come down to us, is, on the whole, a later development of that which we have just described. Here, too, the evolutionary theory of Sāṅkhya has been so modified as to agree with the Vedāntic doctrine about the oneness of Brahman, by assuming that *Puruṣa* and *Prakṛti* are but two forms of the Supreme Deity, who is identified with one of the popular gods according to the sectarian character of the work. An abstract from the account of the creation in the *Viṣṇu Purāṇa*[1] may serve to illustrate Paurānic cosmogony, if we keep in mind that the accounts in other Purāṇas are, on the whole, similar in tenor, though they may vary in details. According to the *Viṣṇu Purāṇa*, the self-existent Brahman is Vāsudeva; he is originally and essentially but one, still he exists in three successively proceeding forms: Puruṣa, Pradhāna (both unevolved and evolved), and Kāla (time), the latter acting as the bond connecting the former two. When the Supreme Deity enters Puruṣa and Pradhāna (the equilibrium of the three *guṇas*), then Pradhāna produces Mahān or Buddhi, which in its turn produces Ahaṁkāra; and so the five subtle elements, the gross elements, and the eleven organs are produced, much in the same way as is taught in Sāṅkhya philosophy. But the Purāṇas teach, in addition to the evolutionary theory, that each generating principle or element envelops the one generated by it. The gross elements combine into a compact mass, the world-egg (*brāhmāṇḍa*), which rests on the waters, and is surrounded by seven envelopes—water, wind, fire, air, Ahaṁkāra, Buddhi, and Pradhāna. In the world-egg the highest deity, invested with the *guṇa* activity, appeared in the form of Brahmā, and created all things. The same deity in the *guṇa* goodness preserves, as Viṣṇu, the Universe till the end of a *kalpa*, when the same god, in the awful form of Rudra, destroys it. The third chapter of the *Viṣṇu Purāṇa* deals with time, the days and nights of Brahmā, the duration of his life, etc. (see AGES OF THE WORLD [Indian]). The next chapter describes how, in the beginning of a *kalpa*, Nārāyaṇa, in the shape of a boar, raised the earth from beneath the waters and created the four lower spheres—earth, sky, heaven, and Maharloka. In the fifth chapter occur some more speculations of Sāṅkhya character, and a description of nine creations:

'The first creation was that of Mahat, or Intellect, which is called the creation of Brahmā. The second was that of the rudimental principles (*tanmātrās*), thence termed elemental creation (*Bhūtasarga*). The third was the modified form of egotism, termed the organic creation or creation of the senses (*Aindriyika*). These three were the Prākṛta creations, the developments of indiscrete nature, preceded by the indiscrete principle. The fourth or fundamental creation (of perceptible things) was that of inanimate bodies. The fifth, the Tairyagyonya creation, was that of animals. The sixth was the Ūrdhvasrotas creation, or that of the divinities. The creation of the Arvāksrotas beings was the seventh, and was that of man. There is an eighth creation, termed Anugraha, which possesses both the qualities of goodness and darkness. Of these creations five are secondary, and three are primary. But there is a ninth, the Kaumāra creation, which is both primary and secondary. These are the nine creations of the great progenitor of all, and, both as primary and secondary, are the radical causes of the world, proceeding from the sovereign creator.'[1]

The seventh chapter relates how Brahmā after the creation of the world created 'other mind-born sons like himself'; about the number and names, however, of these Prajāpatis, or mental sons of Brahmā, the different Purāṇas do not agree.[2] Then Brahmā created Manu Svāyaṁbhuva, for the protection of created beings. Manu's daughter Prasūti was married to one of the Prajāpatis, Dakṣa, who thereby became the ancestor of a great number of divine beings, mostly of an allegorical character, as personified virtues and vices.

The preceding abstracts from the *Viṣṇu Purāṇa* give some idea of the heterogeneous character of the cosmogonic theory which henceforth was generally adopted. Mythological and theosophic notions inherited from the Vedic period have been combined with notions of later origin—genealogic legends, the evolutionary system of Sāṅkhya, and the scheme of the Ages of the World—in order to give a rational theory of the origin and development of the world in harmony with the teachings of the Vedas. But the materials proved too refractory, or rather the authors were not bold enough in re-modelling the old traditions; hence their work leaves the impression of disparate parts, ill-combined or only formally united.

The authors of the Purāṇas succeeded better in delineating a plan of the Universe; for the cosmographic notions which are contained in the Vedas, and which have been sketched above under § 1, lent themselves readily to such an undertaking. The Great Epic added little to the old stock of cosmographic ideas, except a detailed description of the earth and some particulars about the hells. There was, indeed, the ancient belief in worlds of Indra, Varuṇa, Vāyu, Agni, Āditya, Yama, etc., but the notions as to the situation of these worlds (except those of Indra and Yama) seem always to have been rather vague, so that the authors of the Purāṇas were not over much prejudiced by tradition in their endeavours to devise a systematic cosmography. The system is practically the same in all Purāṇas; the following description of it is based on the *Viṣṇu Purāṇa*, while for the discrepancies in details the reader may be referred to Wilson's notes in his translation of the *Viṣṇu Purāṇa*.

The whole system of the worlds contained in the world-egg may be divided into three parts in agreement with the current expressions *tribhuvana*, *trailokya*, etc., 'the three worlds.' The middle part, which is, however, many times nearer the base than the top, is formed by the earth, an enormous disk of five hundred millions of *yojanas* in extent; it is encircled by the Lokāloka mountain, and contains the continents and oceans. A description of the earth need not detain us here, as it will be given in the art. GEOGRAPHY (Mythical). Above the earth are the heavens, and below it the nether worlds, or *Pātāla*. But actually the Universe is divided into two parts; for it consists of seven upper regions, the lowest of which is the earth, and of the seven nether regions. Hence frequently fourteen worlds are spoken of. To these two divisions have been added the hells, somewhere in the lowest part of the Universe. The number of hells seems originally not to have been fixed (*Viṣṇu Purāṇa*, ii. 6), though Manu (iv. 87) gives their number as twenty-one.[1]

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[1] H. H. Wilson, *Vishṇu Purāṇa*, vol. i. (London, 1864).

[1] Wilson, *op. cit.* i. 74 ff.

[2] *Ib.* p. 100, note; cf. the passage from Manu quoted above, verse 34 f.

Omitting the hells, there are seven nether worlds (Atala, Vitala, Nitala, Gabhastimat, Mahātala, Sutala, and Pātāla),[2] and the seven upper worlds (Bhūr [the earth], Dyaus, Svar, Mahar, Janas, Tapas, and Satya). Pātāla—for this is also the collective name of the seven nether worlds—extends downwards 70,000 *yojanas* below the surface of the earth, each of its seven regions having a depth of 10,000 *yojanas*. Pātāla is the abode of Nāgas, Daityas, and Dānavas, and it equals the heavens in beauty and magnificence. Below Pātāla is the dragon Śeṣa, who 'bears the entire world like a diadem upon his head, and who is the foundation on which the seven Pātālas rest.' As said above, the hells, or *narakas*, are beneath Pātāla; but their exact situation cannot be made out, because some place them below, some above, the waters which encircle the Universe. The cause of this uncertainty with regard to the hells seems to have been that originally they were not distinguished from the nether worlds. For, as will be seen below (§ 4), the Jains have seven hells instead of seven Pātālas, and find room for the Asuras in caves below the earth and above the first hell, instead of seven Pātālas. The upper regions begin with the terrestrial sphere, *Bhūrloka*; the next is *Bhuvarloka*, or *Dyaus*, which reaches thence to the sun; while from the sun to the pole star extends the *Svarloka*, or the heaven of the gods. These three worlds are destroyed at the end of each *kalpa*. The next higher world, *Maharloka*, is not destroyed, but at the end of the *kalpa* its tenants repair to the next region, the *Janaloka*, the inhabitants of which are Sanandana and other sons of Brahmā. The sixth region is *Tapaloka*, peopled by the Vairāja gods; and above it is the highest region, *Satyaloka* or *Brahmaloka*, the inhabitants of which never know death. It must, however, be stated that the different Purāṇas do not agree regarding the inhabitants of the higher heavens. The distance of these regions from one another increases from below upwards: Maharloka is ten million *yojanas* above the pole star, Janaloka twenty, Tapaloka eighty, and Satyaloka a hundred and twenty, millions of *yojanas* above the next lower region.

A somewhat different description of the Universe is given by Vyāsa in the *Yogabhāṣya*, iii. 26. This account, which may be ascribed to the 7th cent. A.D., is much more detailed than that of the Purāṇas, with which, however, it agrees on the whole. But it has also some curious affinities with the Buddhist description of the world, in proper names as well as in the part played by contemplation. The entire Universe is contained in the world-egg, which is but an infinitesimally small particle of the Pradhāna. It consists of seven regions (*bhūmi*), one above the other. The lowest is *Bhūrloka*, which extends from the lowest hell to the top of mount Meru. The second region, *Antarikṣaloka*, reaches to the pole star. The third is termed *Svar-* or *Māhendraloka*; the fourth *Mahar-* or *Prājāpatyaloka*. The fifth, sixth, and seventh regions, called *Jana-*, *Tapa-*, and *Satyalokas*, form together the tripartite Brāhmaloka. Bhūrloka is subdivided into hells, Pātālas, and earth. At the bottom of Bhūrloka are the seven hells, one above the other. Their names are: Avīchi, Ghana, Salila, Anala, Anila, Ākāśa, and Tamaḥpratiṣṭha; with the exception of Avīchi, a popular name of hell, these hells seem to be identical with the envelopes of the world-egg in the Paurānic account. Probably for this reason these six hells each bear another name, as stated by Vyāsa, viz. Mahākāla, Ambarīṣa, Raurava, Mahāraurava, Kālasūtra, and Andhatāmisra. Above the hells are the seven Pātālas: Mahātala, Rasātala, Atala, Sutala, Vitala, Talātala, and Pātāla. Above these seven *bhūmis* is the eighth, the earth, *Vasumati*, with the seven continents, etc., which may be passed over here.

As to the inhabitants of the seven regions of the Universe, the following notions are found. (1) In the Pātālas, in the oceans and on the mountains of the earth live the following classes of gods (*devanikāyas*): Asuras, Gandharvas, Kinnaras, Kimpuruṣas, Yakṣas, Rākṣasas, Bhūtas, Pretas, Apasmārakas, Apsaras, Brahmarākṣasas, Kūṣmāṇḍas, and Vināyakas; in the continents live gods and men, and on Meru are the parks and palaces of the gods. (2) Antarikṣaloka is the sphere of the celestial bodies. (3) In Māhendra are six classes of gods: Tridaśas, Agniṣvātas, Yāmyas, Tuṣitas, Aparinirmitavaśavartins, and Parinirmitavaśavartins. (4) In Prājāpatya there are five classes of gods: Kumudas, Ribhus, Pratardanas, Añjanābhas, and Prachitābhas. (5) In Janaloka there are four classes: Brahmapurohitas, Brahmakāyikas, Brahmamahākāyikas, and Amaras. (6) In Tapaloka there are three classes: Ābhāsvaras, Mahābhāsvaras, and Satyamahābhāsvaras. (7) In Satyaloka there are four classes: Achyutas, Śuddhanivāsas, Satyābhas, and Saṁjñāsaṁjñins. The gods in the regions from Prājāpatya upwards live on contemplation (*dhyānāhāra*); their powers and the duration of their life increase by bounds from below upwards; the gods in Tapaloka are not reborn in a lower sphere, and the four classes of gods in Satyaloka realize the happiness of the four degrees of contemplation respectively—*savitarka*, *savichāra*, *ānandamātra*, and *asmitāmātra-dhyāna*. Cf. art. COSMOGONY AND COSMOLOGY (Buddhist).

The detailed knowledge of the structure of the Universe was generally believed to have been reached by contemplation; this is expressly stated by Patañjali in *Yogasūtra*, iii. 26, and by the Jain writer Umāsvāti in *Tattvārthādhigama Sūtra*, ix. 37. Notwithstanding, or rather because of, its visionary character, Paurānic cosmography became, as it were, an article of faith.[1] The general belief in it was not shaken even by the introduction of scientific astronomy, though the astronomers tried to remodel the traditional cosmography on the basis of their science. The result of this compromise may be seen in the following abstract from the *Sūrya Siddhānta*, xii. 29 ff.:[2]

> 'This Brahma-egg is hollow; within it is the universe, consisting of earth, sky, etc.; it has the form of a sphere, like a receptacle made of a pair of caldrons (29). A circle within the Brahma-egg is styled the orbit of the ether (*vyoman*); within that is the revolution of the asterisms (*bha*); and likewise, in order, one below the other (30) revolve Saturn, Jupiter, Mars, the sun, Venus, Mercury, and the moon; below, in succession, the Perfected (*siddha*), the Possessors of Knowledge (*vidyādhara*), and the clouds (31). . . . Seven cavities within it, the abodes of serpents (*nāga*) and demons (*asura*), endowed with the savour of heavenly plants, delightful, are the inter-terranean (*pātāla*) earths (35). A collection of manifold jewels, a mountain of gold, is Meru, passing through the middle of the earth-globe, and protruding on either side (36).'

Literature to §§ 2 and 3 has been indicated in the above.

4. Jain cosmography.—According to the Jains, the world is eternal, without beginning or end. They have therefore no cosmogony, but they have a cosmography of their own which differs widely from that of the Brāhmans, especially with regard to the upper spheres or heavens. The Universe takes up only that part of space which, from this circumstance, is called Lokākāśa; the remaining part, Alokākāśa, is an absolute void and perfectly impenetrable to anything, either matter or souls. The Lokākāśa is coterminous with the two substances Dharma and Adharma, the substrata of motion and rest, which are, therefore, the indispensable conditions of the presence of all existing things. 'The world is figured by the Jainas as a spindle resting on half of another; or, as they describe it, three cups, of which the lowest is inverted; and the uppermost meets at its circumference the middle one. They also represent the world by comparison to a woman with her arms akimbo.'[1] Older, however, is the comparison with a man (*puruṣa*). The disk of the earth is in the lower part of the middle, and forms the waist of the *puruṣa*; below the earth are the hells, and above it the upper regions. The entire world rests on a big layer of 'thick water,' this on one of 'thick wind,' and this again on one of 'thin wind.' The last two layers measure innumerable thousands of *yojanas*. The seven lower regions (*bhūmis*), one below the other, are Ratnaprabhā, Sarkarāprabhā, Vālnkāprabhā, Paṅkaprabhā, Dhūmaprabhā, Tamaḥprabhā, and Mahātamaḥprabhā. Another set of names for them is given by Umāsvāti: Dharmā, Vaṃśā, Sailā, Añjanā, Ariṣṭā, Mādhavyā, and Mādhavī (cf. the double set of names for the hells in the *Yogabhāṣya*, above, § 3). These regions contain the hells; the lowest one has but five, while the highest one, Ratnaprabhā, has three millions of hells. Their inhabitants are the damned, *nārakas*, whose stay in hell is not without end, but for fixed periods of time, varying from 10,000 years to 33 oceans of years, when they are re-born in other conditions of life. These regions are separated from each other by layers of 10,000 *yojanas* containing no hells; but in the layer separating Ratnaprabhā from the earth are the dwellings of the Bhavanāvāsin gods; these dwellings are apparently the Jain counterpart of the Brāhmanic Pātālas. Above the seven regions of the hells is the disk of the earth, with its numerous continents in concentric circles separated by rings of oceans (see art. GEOGRAPHY [Mythical]). In the middle of the earth towers Mount Meru, 100,000 *yojanas* high, round which revolve suns, moons, and stars, the Jyotiṣka-gods. Immediately above the top of Mount Meru begins the threefold series of heavenly regions styled Vimānas, and inhabited by the Vaimānika gods. These regions are as follows: (1) *the twelve kalpas*, Saudharma, Aiśāna, Sanatkumāra, Māhendra, Brahmaloka,[2] Lāntaka, Mahāśukra, Sahasrāra, Ānata, Prāṇata, Āraṇa, and Achyuta (the Digambaras add Brahmottara before Lāntaka; Kāpiṣṭha and Śnkra after it, and Śatāra after Mahāśukra); (2) *the nine Graiveyakas* (these heavens form the neck [*grīva*] of the man figuring the world; hence their name); (3) *the five Anuttaras*, Vijaya, Vaijayanta, Jayanta, Aparājlta, and Sarvārthasiddha. The gods in the Annttara Vimānas will be re-born no more than twice. It is to be understood that all these twenty-six heavens are one above the other. Above Sarvārthasiddha, at the top of the Universe, is situated Īṣatprāgbhāra, the place where the souls resort on their liberation (*nirvāṇa*). The following description of it is given in the *Uttarādhyayana Sūtra*, xxxvi. 57 ff. (*SBE* xlv. 211 f.):

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[1] For particulars, see Wilson, *op. cit.* ii. 215, and Hall's note to that passage.

[2] For variations in other Purāṇas, see Wilson, *op. cit.* i. 208.

[1] It is worthy of remark that in these cosmographic systems worlds are assigned to the more ancient gods, viz. Indra, the Prajāpatis, and Brahman, but not to Viṣṇu and Śiva; indeed Viṣṇu's heaven, Vaikuṇṭha, is wanting in those lists of heavens. Apparently the authors of cosmography had not come under the influence of popular Vaiṣṇavism or Śaivism.

[2] Burgess's tr. in *JAOS* vi. 245.

> 'Perfected souls are debarred from the non-world (Alōka); they reside on the top of the world; they leave their bodies here (below), and go there, on reaching perfection (57). Twelve *yojanas* above the (Vimāna) Sarvārtha is the place called Īṣatprāghbhāra, which has the form of an umbrella (58). It is forty-five hundred thousand *yojanas* long, and as many broad, and it is somewhat more than three times as many in circumference (59). Its thickness is eight *yojanas*; it is greatest in the middle, and decreases toward the margin, till it is thinner than the wing of a fly (60). This place, by nature pure, consisting of white gold, resembles in form an open umbrella, as has been said by the best of Jinas (61). (Above it) is a pure blessed place (called Śitā), which is white like a conch-shell, the *aṅka*-stone, and *kunda*-flowers; a *yojana* thence is the end of the world (62). The perfected souls penetrate the sixth part of the uppermost *krośa* of the (above-mentioned) *yojana* (63). There at the top of the world reside the blessed perfected souls, rid of all transmigration, and arrived at the excellent state of perfection (64).'

In concluding our exposition of Jain cosmography it may be remarked that the knowledge of it seems always to have been popular among the Jainas, for the plan of the Universe as described above is always before the mind of Jain authors, and they presuppose an acquaintance with it on the part of their readers.

LITERATURE.—The above account of Jain cosmography is based chiefly on Umāsvāti's *Tattvārthādhigama Sūtra* (tr. by the present writer in *ZDMG* lx. [Leipzig, 1906]).

H. JACOBI.

COSMOGONY AND COSMOLOGY (Iranian).—The chief Iranian texts on the creation of the world are *Vendīdād* i. and *Būndahiśn*. Of these the more elaborate is the latter, and according to it both Ormazd and Ahriman have existed from all eternity—a view which is as old as the Gāthās (cf. *Yasna* xxx. 3, which distinctly terms the two spirits 'twins'—*yēmā*—and xlv. 2). The pair are parted by the ether (*vāyu*), and Ormazd dwells in 'endless light,' while his opponent lurks in an abyss of infinite darkness. Ormazd, moreover, was aware, through his omniscience, of the existence of Ahriman, but the evil spirit was ignorant of the higher being until aroused to conflict with him by beholding light. Thereupon, as Ormazd created excellent lands, Ahriman sought to mar his work by bringing into being plagues, moral and physical. Herein the essential dualism of Zoroastrianism finds one of its most important illustrations.

Zoroastrian cosmogony covers a period of 12,000 years, which are divided into four ages of 3,000 years each. The first of these epochs is the age of the spiritual creation, in which the creations remained 'in a spiritual state, so that they were unthinking and unmoving, with intangible bodies' (*Būndahiśn* i. 8; *Selections of Zāṭ-sparam* i. 22). These spiritual creations bear a remarkable analogy to the Platonic 'Ideas,' and Darmesteter has sought (*Le Zend-Avesta* iii., Paris, 1893, pp. li–liii), although without success, to trace an actual connexion between the two. Meanwhile, Ahriman created demons for the overthrow of the creatures of Ormazd, and refused the peace which the celestial being offered him. Thereupon, they agreed to combat for nine thousand years, Ormazd foreknowing that for three thousand years all things would go according to his own will, while in the second three thousand years the two spirits should struggle in bitter conflict, and in the third Ahriman should be utterly put to rout. The second epoch of three thousand years was that of the material creation, the order being, after the Amesha Spentas (*q.v.*), heaven (including the heavenly bodies), water, earth, plants, animals, and man. The third period of three thousand years begins with the eruption of Ahriman into the good creation of Ormazd. The evil spirit spreads disease, devastations, and noxious creatures, throughout the world, harming and defiling water, earth, plants, and fire, in addition to slaying the primeval ox and the primeval man. Finally, however, the demoniac hosts are driven back to hell. The remainder of this period is concerned with the legendary history of the Iranian kings, so that neither it nor the final eschatologic period comes under consideration in an outline of the Persian cosmogony.

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[1] Colebrooke, *Miscellaneous Essays*, London, 1837, ii. 198.

[2] About the Brahmaloka the following details are given: in it live the Lokāntika gods (who will reach *nirvāṇa* after one re-birth); and round it, in the cardinal and intermediate points of the compass, N.E., E. etc., are situated the Vimānas of the following eight classes of gods: Sārasvatas, Ādityas, Vahnis, Aruṇas, Gardatoyas, Tuṣitas, Avyābādhas, and Ariṣṭas.

Throughout the Avesta the creation of all things is ascribed to Ahura Mazda (Ormazd), as in *Yasna* xvi. 1, although a certain amount of creative activity is also attributed to the Amshaspands (*Yasna* lxv. 12; *Visparad* xi. 12; *Yašt* xix. 18). In *Yasna* xxxvii. 1 occurs the striking passage: 'Here, then, we worship Ahura Mazda, who created both kine and holiness, and created water, created both good trees and light, both the earth and all good things' (cf. xliv. 3–5). That this belief was Iranian is shown by the recurrence of similar phraseology in the Old Persian inscriptions, as in NR. a, 1–8: 'A great god is Auramazda, who created this earth, who created yon heaven, who created man, who created peace for man, who made Darius king, the one king of many, the one ruler of many,' although similar phrases are not unknown in Assyrian inscriptions (Gray, *AJSL* xvii. 152).

The creation itself, according to the Parsi *Āfrīn Gahanbār* (tr. by Darmesteter, *op. cit.* pp. 180–187, and edited by him in *Études iran.*, Paris, 1883, ii. 318–333) and the *Būndahišn* xxv. 1 (cf. also the section of the *Great Būndahišn*, tr. by Blochet, *RHR* xxxii. 223), occupied a year. The tradition of a cosmic epoch of 12,000 years, although not mentioned in the extant Avesta, must be of considerable antiquity, for the historian Theopompus, an author of the 4th cent. B.C., says, in a fragment preserved by Plutarch (*de Iside et Osiride*, xlvii.): 'According to the Magi, one of the gods conquers and the other is conquered for three thousand years each; and for another three thousand years they fight and war, and one destroys the works of the other; but finally Hades loses, and mankind shall be blessed, neither needing nourishment nor casting shadows.'[1] The Iranian cosmogony seems to have been geocentric, and, according to *Dāṭistān-ī-Dēnīk* xxxvii. 24, 'the sky is in three thirds, of which the one at the top is joined to the endless light, in which is the constantly-beneficial space; the one at the bottom reached to the gloomy abyss, in which is the fiend full of evil; and one is between those two thirds which are below and above' (cf. *Yašt* xiii. 2). This has led some scholars, notably Spiegel, to seek to find the idea of the cosmic egg in Iran, but of this, as Casartelli has well pointed out, there seems to be little evidence. The question whether the Iranian cosmogony presupposes a creation *ex nihilo* has been much discussed, although it would seem from the phrase in the *Būndahišn* (xxx. 5), 'when they were formed, it was not forming the future out of the past,' that at least in the later development of the religion this doctrine was not unknown. The earlier texts, however, shed little light on this problem, nor do the verbs used of the creative activity of Ormazd (*dā*, 'establish,' *θwares*, 'cut'; *taš*, 'form,' cf. Gr. τέκτων) and Ahriman (*karat*, 'cut') give much aid, although *θwares*, *taš*, and *karat* seem to imply the elaboration of already existing material, while it may be urged that *dā* connotes, at least in some passages, actual creation *ex nihilo*. Equally dubious is the problem of the origin of the Iranian cosmogony. An elaborate comparison has been drawn by Spiegel (*Erânische Alterthumskunde*, i. 449–457) between the Iranian and the Semitic, particularly Hebrew, accounts of the creation of the world; but this is, to say the least, unproven. It is true that, both in Genesis and in the *Būndahišn*, creation occupies six periods, but in the former the epoch is a week of six days, and in the latter a year of six *gāhānbārs*, and the correspondence in the main between the order of the two accounts is a natural sequence of development, and not necessarily due to the borrowing of either from the other. It should also be noted that the Iranian account makes no allowance for the seventh day of the Biblical record, thus further increasing the improbability of borrowing from either side. On the other hand, the division of the earth into seven *karšvars*, or 'zones,' which is mentioned repeatedly in the Avesta (as in *Yasna* lxi. 5; *Yašt* xix. 82), and is as old as the Gāthās (*Yasna* xxxii. 3), is doubtless late Babylonian in origin, especially as the Semitic cosmogony likewise divided the earth into seven zones (*tubuqâti*). This origin of the Iranian *karšvars* seems more probable than the view which equates them with the *dvīpas* ('islands') of Hindu cosmogony, which usually number seven, although they are occasionally regarded as four or thirteen. They are not mentioned, however, before the *Mahābhārata* and the *Purāṇas*, and are thus probably too late to have influenced the Avesta (cf. Muir, *Original Sanskrit Texts*, i.^{2} London, 1872, pp. 489–504; and, for the proof of Bab. influence, P. Jensen, *Kosmol. der Babylonier*, Strassburg, 1890, pp. 175–184).

The cosmogony of the Iranians, as outlined in the Avesta and the Pahlavi texts, underwent some slight changes in the course of time as a result of philosophic thought. The reduction of the dualism of the Gāthās—itself, no doubt, a reduction of an earlier polytheism—to a monotheism gave rise to the elaboration of the concept of 'Boundless Time' (*zrvan akarana*), which is hailed as a godling even in the so-called Younger Avesta (*Yasna* lxxii. 10; *Nyāiš* i. 8; *Vendīdād* xix. 13). The Zarvanite sect, which was an important factor in Parsiism as early as the 4th cent. A.D., derived both Ormazd and Ahriman from 'Boundless Time,' making the evil spirit born first in consequence of the doubt of 'Boundless Time,' while Ormazd did not come into being until later, and was long inferior in power to Ahriman. In somewhat similar fashion, the Kaiyomarthians, another Zoroastrian sect, held that Ahriman, the principle of evil, was sprung from Yazdān ('God,' *i.e.* Ormazd) because of his sinful thought, 'if I had an adversary, how would he be fashioned?' (Cf. the account of these sects by al-Shahrastani, tr. Haarbrücker, i., Halle, 1850, pp. 276–280; and see Spiegel, *Erân. Alterthumskunde*, ii. 175–189; Darmesteter, *Ormazd et Ahriman*, Paris, 1877, pp. 314–338.) This extrême unitarian tendency, however, by which evil itself was traced back ultimately to Ormazd, was always rejected by orthodox Zoroastrianism.

LITERATURE.—Spiegel, *Erân. Alterthumskunde*, ii. 141–151 (Leipzig, 1873); Jackson, 'Iran. Religion,' in Geiger-Kuhn's *Grundriss der iran. Philologie*, ii. 668–673 (Strassburg, 1904); Casartelli, *Philosophy of the Mazdayasnian Religion under the Sassanids* (Eng. tr. by Jamasp Asa, Bombay, 1889), pp. 94–128; Lukas, *Die Grundbegriffe in den Kosmogonien der alten Völker* (Leipzig, 1893), pp. 100–138; Söderblom, 'Theopompus and the Avestan Ages of the World,' in *Dastur Hoshang Memorial Vol.* pp. 228–230 (Bombay, 1911).

LOUIS H. GRAY.

COSMOGONY AND COSMOLOGY (Japanese).—The most ancient and most authentic account of Japanese cosmogony is found in the *Kojiki* ('Records of Ancient Matters,' A.D. 712). The following is the description of the genesis of the universe contained in this valuable text:

'The names of the Deities that became (*i.e.* that were born) in the Plain of High Heaven, when Heaven and Earth began, were Ame-no-mi-naka-nushi-no-kami (the Deity Master-of-the-August-Centre-of-Heaven), next Taka-mi-musu-bi-no-kami (the High-August-Producing-Wondrous-Deity), next Kami-musu-bi-no-kami (the Divine-Producing-Wondrous-Deity). These three Deities were all Deities born alone (*i.e.* spontaneously, without being procreated), and hid their persons (*i.e.* disappeared, by death or otherwise). The names of the Deities that were born next from a thing that sprouted up like unto a reed-shoot when the country (*i.e.* the earth), young and like unto floating oil, drifted about medusa-like, were Umashi-ashi-kabi-hiko-ji-no-kami (the Pleasant-Reed-Shoot-Prince-Elder-Deity), next Ame-no-toko-tachi-no-kami (the Deity Standing-Eternally-in-Heaven). These two Deities were likewise born alone, and hid their persons. The five Deities in the above list are separate Heavenly Deities (*i.e.* were separate from those who came into existence afterwards).

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[1] For the Gr. text, see vol. i. p. 208^a, where a different interpretation from the one here given (which agrees independently with that of Lagrange, *RB*, 1904, p. 35) may be found.

'The names of the Deities that were born next were Kuni-no-toko-tachi-no-kami (the Deity Standing-Eternally-on-Earth), next Toyo-kumo-nu-no-kami (the Luxuriant-Integrating-Master-Deity). These two Deities were likewise Deities born alone, and hid their persons. The names of the Deities that were born next were U-hiji-ni-no-kami (the Deity Mud-Earth-Lord), next his younger sister (*i.e.* wife) Su-hiji-ni-no-kami (the Deity Mud-Earth-Lady); next Tsunu-guhi-no-kami (the Germ-Integrating-Deity), next his younger sister Iku-guhi-no-kami (the Life-Integrating-Deity); next Oho-to-no-ji-no-kami (the Deity Elder-of-the-Great-Place), next his younger sister Oho-to-no-be-no-kami (the Deity Elder-Lady-of-the-Great-Place); next Omo-daru-no-kami (the Deity Perfect-Exterior), next his younger sister Aya-kashiko-ne-no-kami (the Deity Oh-Awful-, or Venerable-, Lady); next Izana-gi-no-kami (the Deity the Male-Who-Invites), next his younger sister Izana-mi-no-kami (the Deity the Female-Who-Invites). From the Deity Standing-Eternally-in-Heaven down to the Deity the Female-Who-Invites in the foregoing list are what are termed the Seven Divine Generations. The two solitary Deities above-mentioned are each called one generation: of the succeeding ten Deities each pair of Deities is called a generation' (*Kojiki*, at the beginning of vol. i.; tr. B. H. Chamberlain, ed. 1906, p. 15 f.).

From these very first lines of the sacred account we have before us a genesis that is not lacking in grandeur. The world appears as a nebulous, moving chaos: Divine beings develop in it by spontaneous generation, some being born in the heart of space, others coming from a reed-shoot that has arisen from the mud; while others spring up, at first solitary, then in pairs, following a progress and bearing names that recall in a striking manner our theory of evolution. This rational explanation of the ancient national myth did not escape the Japanese commentators who elucidated these texts in the 18th and 19th centuries.

'The god U-hiji-ni and the goddess Su-hiji-ni,' says Hirata, 'are so called because they contained the germs from which the earth itself was to spring. The god Oho-to-no-ji and the goddess Oho-to-no-be are so called from the primitive appearance of this earth. The god Tsunu-guhi and the goddess Iku-guhi are so called from the common appearance of the earth and the deities when they sprang into existence. The god Omo-daru and the goddess Aya-kashiko-ne are so called from the perfect character of the august persons of these deities. Thus the names of all these gods were given them according to the gradual progress of the creation.'

And, indeed, it cannot be denied that the above-quoted myth conceals under the transparent symbolism of its Divine figures an intellectual effort to find a logical explanation of the genesis of the universe.

To this slender outline of the *Kojiki* we may now add the complementary picture supplied by the *Nihongi* ('Chronicles of Japan,' A.D. 720). This account is less simple, and is permeated by Chinese ideas, which must be eliminated; but, on the other hand, it is also richer in various developments borrowed from other indigenous sources.

'Of old, Heaven and Earth were not yet separated, and the In and Yô not yet divided. They formed a chaotic mass like an egg, which was of obscurely defined limits, and contained germs. The purer and clearer part was thinly diffused and formed Heaven, while the heavier and grosser element settled down and became Earth. The finer element easily became a united body, but the consolidation of the heavy and gross element was accomplished with difficulty. Heaven was therefore formed first, and Earth was established subsequently. Thereafter Divine Beings were produced between them. Hence it is said that, when the world began to be created, the soil of which lands were composed floated about in a manner which might be compared to the floating of a fish sporting on the surface of the water. At this time a certain thing was produced between Heaven and Earth. It was in form like a reed-shoot. Now this became transformed into a god, and was called Kuni-toko-tachi-no-mikoto (the August Standing-Eternally-on-Earth). Next there was Kuni-no-sa-tsuchi-no-mikoto (the August True-Soil-of-the-Country), and next Toyo-kumu-nu-no-mikoto (the August Luxuriant-Integrating-Master), in all three Deities. These were pure males spontaneously developed by the operation of the principle of Heaven.'

At this point the account breaks off, and the narrator gives us curious variants from the ancient manuscripts (now lost) that he had before him. Sometimes we have the original existence, in the midst of the Void (*sora*), of a 'thing whose form cannot be described,' and from which the first god is produced. Sometimes, again, we have the birth, 'at the time when the country was young and the earth was young, floating like floating oil,' within the country, of a 'thing in appearance like unto a reed-shoot when it shows itself above the ground.' Sometimes, again, all we are told is that, 'when the Heavens and the Earth were in a state of chaos, there was at the very outset a Divine man'; or, 'when the Heavens and the Earth began, there were Deities produced together.' Another version, which is more original, says: 'Before the Heavens and the Earth, there existed something which might be compared to a cloud floating on the sea, and having no means of support. In the midst of this was engendered a thing resembling a reed-shoot springing out of the mud; and this thing was immediately metamorphosed into human form.' A last variant shows us once more 'a thing produced in the midst of the Void, which resembled a reed-shoot and changed into a god'; then a 'thing produced in the midst of the Void, like floating oil, from which a god was developed.' After this we see unfolding again the series of the Seven Divine Generations (see the *Nihongi*, Shukai ed. i. 1–4; W. G. Aston's tr., Yokohama, 1896, i. 1 ff.).

All these texts are valuable from their very incoherence, which, like the incoherence of the Hindu myths on the same subject, proves their authenticity and affords all the more interest from the point of view of comparative mythology. In the first place, indeed, this abundance of versions enables us to trace in Japan the cosmogonic myths of many other races: *e.g.* the idea that gods and men were sprung from certain plants—an idea that we meet with from the time of the ancient Greeks, who believed that they had sprung from the earth like cabbages, were born from certain trees, or had risen out of a marsh, right down to the Amazulu, who make their Unkulunkulu come from a bed of reeds or even from a reed-shoot (which corresponds exactly with the Japanese idea). In the second place, by examining these most ancient texts in relation to each other, we can distinguish, as far as is possible, the true native Japanese conception from the Chinese notions added thereto. The idea of the separation of the Heavens and the Earth, with which the *Nihongi* begins, and which also exists in China (myth of P'an-ku), is found again in India, Greece (Kronos myth), and New Zealand (Rangi and Papa), and consequently it would be rash to affirm a simple Chinese imitation here. But the whole passage on the *In* and the *Yô* (the *Yin* and the *Yang*, the passive or female principle, and the active or male principle, which are the mainspring of Nature in Chinese philosophy) is clearly only a little dissertation of foreign metaphysics, preparing the way for the native tradition of Izanagi and Izanami, the creators of Japan. As regards the cosmic egg which appears next, although it is found among a great number of peoples, both ancient (Indians, Egyptians, Phœnicians, Greeks) and modern (Fijians, Finns, etc.), and may therefore have been one of the spontaneous hypotheses which struggled for mastery in the mind of the primitive Japanese, it seems more probable that it also was a product of the same Chinese inspiration, especially when we consider the fact that this idea of the egg is posterior to the indication of the male and female principles, and that it does not harmonize very well with the image of the fish employed immediately after. It is only at this point ('Hence it is said . . .') that the real national account, agreeing with that of the *Kojiki*, begins. Thus we see the leading line of the purely Japanese myth disentangling itself, viz. the essential notion of a floating earth, from which springs a reed-shoot, which in turn engenders the human form. And in this way we have, along with the origin of the world, the origin of man himself: the cosmogony terminates in a mysterious theogony, in which the Divine and human elements are confused in an insensible transition.

At this stage the last couple born in the Plain of the High Heavens are commissioned by the other gods to 'make, consolidate, and give birth to this drifting land':

'Hereupon all the Heavenly Deities commanded the two Deities, His Augustness the Male-Who-Invites and Her Augustness the Female-Who-Invites, ordering them to "make, consolidate, and give birth to this drifting land." Granting to them an heavenly jewelled spear, they thus deigned to charge them. So the two Deities, standing upon the Floating Bridge of Heaven (most probably, the Rainbow), pushed down the jewelled spear and stirred with it, whereupon, when they had stirred the brine till it went curdle curdle, and drew the spear up, the brine that dripped down from the end of the spear was piled up and became an island. This is the Island of Onogoro (*i.e.* Self-Condensed)' (*Kojiki*, 19).

Izanagi and Izanami descend from Heaven to this island and celebrate their union. They give birth first to a weakly child, which they abandon in a reed-boat, and then to the islet of Awa (Foam), which also they refuse to acknowledge. But, on being told by the celestial gods that, if 'these children were not good,' it is 'because the woman spoke first' in the marriage-ceremony, they resume their work of creation under more favourable conditions, and give birth first to the island of Awaji (Foam-way), and then to the other islands of the archipelago. After this, they put into the world in the same manner a whole tribe of Nature-gods. Here, again, we observe the idea of evolution so familiar to Japanese thought.

The god of Fire, Kagu-tsuchi, Izanami's last-born, accidentally scorches his mother so badly that she dies in a terrible fever. Izanagi in despair drags himself round about the body groaning, and from his tears is born another god. He buries his wife on Mount Hiba, on the borders of the land of Izumo. Then, in the fury of his grief, he tears the matricide to pieces, the blood and scattered members also changing into new deities. He finally descends to Hades to recover his wife, and finds himself face to face with a mass of putrid matter. Horror-struck, he returns to the light of day, and proceeds to elaborate ablutions in a river of Kyūshū, in order to get rid of the uncleanness contracted in his sojourn with darkness and death. Twelve deities are at this time born from his staff, various parts of his clothing, and his bracelets, as he throws them on the ground; then fourteen others spring from the various processes of his ablutions, among these being three illustrious deities who are the last to appear, when he washes his left eye, his right eye, and his nose, viz. Ama-terasu-oho-mi-kami (the Heaven-Shining-Great-August-Deity), Tsuki-yomi-no kami (the Moon-Night-Deity), and Take-haya susa-no-wo-no-mikoto (His Brave-Swift-Impetuous-Male-Augustness). To these three deities—the goddess of the Sun, the god of the Moon, and the god of the Ocean, soon transformed into the god of the Storm—Izanagi proceeds to give the investiture of the government of the universe:

'At this time His Augustness the Male-Who-Invites greatly rejoiced, saying: "I, begetting child after child, have at my final begetting gotten three illustrious children." At once jinglingly taking off and shaking the string of jewels forming his august necklace, he bestowed it on the Heaven-Shining-Great-August-Deity, saying: "Do Thine Augustness rule the Plain of High Heaven." With this charge he bestowed it on her. . . . Next he said to the Moon-Night Deity: "Do Thine Augustness rule the Dominion of the Night." Thus he charged him. Next he said to His Brave Swift-Impetuous Male Augustness: "Do Thine Augustness rule the Sea Plain"' (*Kojiki*, 50)

So, then, is the universe organized in its essential elements. It still remains, however, to complete the construction of the earth. This is the task, after the death of Izanagi, of a descendant of Susa-no-wo in the sixth generation—the god Oho-kuni-nushi (Master-of-the-Great-Land, *i.e.* of Izumo), who is the hero of a new cycle of legends. He is assisted in his work first by a dwarf god, a sort of magician, from foreign parts, and then by a mysterious spirit, which reveals itself as one of the hero's own doubles. One might be tempted to think that here it is no longer a question of the task of the material construction of the world, but rather some political organization of the country by a powerful chief. But this is not so, as is shown by the following curious account taken by the author from an old document at the very heart of this legendary cycle, the *Izumo Fudoki* ('Topographical Description of Izumo,' A.D. 733):

'The august god declared: "The country of Izumo . . . is indeed a youthful country of narrow stuff. The original country is still very little. Therefore, I am going to sew a new piece of land to it." He spoke; and, as he looked towards the cape of Shiragi (a Korean kingdom) to see whether there was not an excess of land there, he said to himself: "There is an excess of land"; and with a mattock he hollowed out a cleft like that between a young maiden's breasts; he separated the part with blows, like those dealt on the gills of a large fish (to kill it); and cut it away . . .; and, fastening round it a thick three-strand rope, he drew it along, balanced, as if by tsuzura (*Pueraria Thunbergiana*) blackened by frost, and as smoothly as a boat on a river, saying: "Come, Land! Come, Land!" The piece of land thus sewed on is to be found between the extreme boundary of Kozu and the promontory of Kizuki, which has been formed eight times. The post arranged in this way is Mount Sahime, on the boundary between the country of Ihami and that of Izumo. Moreover, the rope with which he dragged the land along is the long beach of Sono. When he looked towards the country of Saki, at the gates of the North (*i.e.* in the North), to see whether there was not an excess of land there, he said: "There is an excess of land" [as above, down to "Come, Land!"]. The land thus brought and sewed on is the country of Sada, which extends from the very borders of Taku to here. When he looked towards the country of Sunami, at the gates of the North, to see whether there was not an excess of land there, he said: "There is an excess of land" [once more the same words, ending with "Come, Land!"]. The land thus brought and sewed on is the country of Kurami, extending from the borders of Taguhi to here. When he looked towards Cape Tsutsu, of Koshi, to see whether there was not an excess of land there, he said: "There is an excess of land" [always the same phrase]. The country thus brought and sewed on is Cape Miho. The rope with which it was brought is the island of Yomi (one of the place-names that are connected with the entrance to Hades, situated in Izumo). The post arranged in this way is Mount Oho-kami, in Hahaki. "Now we have finished bringing land," he said. And, as he drove his august staff into the ground, in the wood of O-u, he cried: "O-we!" whence the name O-u' (*Izumo Fudoki*, ed. Ohira, 1806, pp. 4–6).

This 'bringing of land' (*kuni-biki*), the naive account of which ends with an equally childish explanation of the name of the place, is a striking illustration of the material character of the task devolving upon Oho-kuni-nushi—the finishing of the work begun by the creator-couple, then continued by Izanagi on his being widowed, and finally interrupted by Izanagi's death. Only the method is different. A short passage in the *Nihongi* (ii. 366) shows the extent to which this putting together of the country seemed a natural work: one night, in A.D. 684, a noise was heard coming from the east like the rolling of drums; in the morning it was seen that an island had suddenly risen out of the waves; the conclusion was that the ominous noise was the din the gods made when building this island in the darkness. Without leaving Japan, we can trace the same idea of building in an Ainu myth. It is intended to explain why the west coast of Yezo ends in treacherous rocks, while the east slopes down gently to the sea. The explanation is that the island was built by a Divine couple, and the woman, who had charge of the west shore, neglected her task by speaking all the time.

In short, apart from spontaneous generation, which is freely admitted for the primordial gods, the creation of the world can be explained prin cipally either by a more or less precise normal generation or by a Divine construction. The idea of generation is the one that dominates the Japanese myths, and is seen in its most material form in the story of Izanagi and Izanami. Nothing could be more natural than this conception, for it is logical to think that things, just as organic beings, could not form themselves without connexion of male and female. Among some peoples, the primitive couple are placed at the very beginning of the evolution: *e.g.* in Nicaragua, a man and woman, Famagoztad and Zipaltonal, created the heavens, the earth, moon, stars, and human beings—the whole world; in Polynesia, Tangaloa and O-te-papa are the parents of the islands and their inhabitants. We have the same idea among the Japanese, except that, being more metaphysical, and wishing to find the cause of the first couple, they imagined vague terrestrial deities who had to precede the first couple, and then went still further back to far-off deities, some of whom are still attached to the earth, while others appeared spontaneously in Heaven. As to the idea of construction, it appears chiefly, as we have just seen, when the task of perfecting the work of creation comes into question. These are two conceptions which are likewise found among the ancient Greeks, and which were combined in the Pythagorean cosmogony.

We now pass from the formation of the world to the laws controlling it. We find among the ancient Japanese various attempts at explanations, which sometimes even form a rudimentary cosmology. What they wanted to explain first of all was the cause of the great physical phenomena, beginning with the phenomena of light, which are the most striking of all to the primitive man, as they are to the child. For instance, Why do the sun and moon not shine at the same time?—Because the goddess of the Sun, enraged by a crime committed by the god of the Moon, determined never to see him again:

> 'Now when Ama-terasu-no-oho-kami was already in Heaven, she said: "I hear that in the Central country of reed-plains there is the Deity Uke-mochi-no-kami (the goddess of Food). Do thou, Tsuki-yomi-no-mikoto, go and wait upon her." Tsuki-yomi-no-mikoto, on receiving this command, descended and went to the place where Uke-mochi-no-kami was. Thereupon Uke-mochi-no-kami turned her head towards the land, and forthwith from her mouth there came boiled rice: she faced the sea, and again there came from her mouth things broad of fin and things narrow of fin (*i.e.* fishes both great and small). She faced the mountains, and again there came from her mouth things rough of hair and things soft of hair (*i.e.* all kinds of game). These things were all prepared and set out on one hundred tables for his entertainment. Then Tsuki-yomi-no-mikoto became flushed with anger, and said: "Filthy! Nasty! That thou shouldst dare to feed me with things disgorged from thy mouth." So he drew his sword and slew her, and then returned and made his report, relating all the circumstances. Upon this Ama-terasu-no-oho-kami was exceedingly angry, and said: "Thou art a wicked Deity. I must not see thee face to face." So they were separated by one day and one night, and dwelt apart' (*Nihongi*, i. 32).

Similarly, How does it happen that the brightness of the Sun is one day totally obscured?—The same Sun-goddess, persecuted by her terrible brother, Susa-no-wo, and indignant at his wickedness, hides herself in a celestial cave; and, when the other gods make her come out by magic processes, the world is lit up again (*Kojiki*, 52–65). In the same way, again, Why, at a more recent time, did the heavens remain dark for whole days on end?—Because two priests were buried in the same tomb; on the separation of their coffins, the division of night from day re-appeared (*Nihongi*, i. 238).

In the first legend, we have to do with a fundamental law of the universe; in the second, with an unusual phenomenon of such a kind as to strike the imagination for a time; in the third, with a far less important occurrence in which we see hardly anything more than a portent. The first mystery is explained by an important act in the drama played by the gods; the second, by an analogous incident, in which, however, human intervention is already making itself more evident; the last, as the result of a simple mistake in ritual. But in all three cases one and the same psychological process appears—a process explaining the normal order and the exceptional disorders of light by the human passions of the Sun. And the story of the other gods would give us similar motives for all the physical phenomena which exercised primitive intelligence—from the stability of the solid sky, which the winds hold up like pillars (Ritual, no. iv.), to the instability of the soil, which the subterranean god shakes with earthquakes (*Nihongi*, ii. 124). Nor must we omit to note how the resentment of a sea-princess against a terrestrial god is offered as the explanation of the fact that 'there is no communication between the earth and the sea' (*Nihongi*, i. 107).

After these attempts to explain the greater aspects of Nature, the ancient Japanese turned their attention to lesser objects—stones, plants, animals. The thing which most impressed them about stone was the spark they could get from it, and this mysterious property the myths are quick to explain, solving at the same time the same question with regard to the fire-principle concealed in tree and plant. When a flint is rubbed, or two pieces of wood are rubbed together for a time, fire appears; it must therefore be concealed in these substances. In order to exist thus in a latent manner, it must have entered these substances. But how? It is here that the hypotheses differ more or less according to the various mythologies.

In New Zealand, Maui obtained from an old Divine grandmother, Mahu-Ika, one of her nails, which produced fire by friction; only he extinguished this fire at once, started off to renew his request, and continued until Mahu-Ika had to part with all her nails one by one; finally, she became enraged and pursued him with her flames, and was prevented from consuming him only by an opportune fall of rain; fortunately some sparks got lodged in certain trees, and from them they can be brought forth again. This is clearly the logical evolution of the production of fire, first by knocking a stone, then by rubbing certain hard woods. Alongside of this Maori Prometheus we may place the Prometheus of the Thlinkets, who fills the same civilizing rôle on the north-west coast of the Pacific: the hero Yehl, in the shape of a raven, stole the heavenly fire, carrying off a burning brand in his mouth; the fire fell upon stones and pieces of wood, and it is from these that it can be extracted again to-day. The same idea is found among the Eskimos, according to whom the rocks contain fire-spirits which are often seen in the form of will-o'-the-wisps; among the American Indians—*e.g.* the Sioux and Chippeways—who believe that flints are thrown down by thunderbolts; among the black races of Africa, who established the same connexion between heavenly fire and stones on earth; and among the ancient Hindus, who supposed that there were Agnis, apparently descended from Heaven, in stones, plants, and trees, just as they knew them to be present in the whole of Nature, in man, in the cloud, and even in the sea.

It is interesting to find this wide-spread myth in Japan. When the god of Fire was slain by his father, his blood leapt up in one place to the sky, and there, in the region of the Milky Way (*Nihongi*, i. 23, 29), it seems to have lit up certain stars which, like Sirius, appear pale to-day, but which, at the time when the Japanese myths were elaborated, certainly shone with a ruddy glow (cf. Hor. *Sat.* II. v. 39; Seneca, *Quæst. Nat.* bk. i.); in another place, this blood flowed over the ground, and infused the fire-principle into plants and trees, stones and rocks. One variant of the *Nihongi* (i. 29) is particularly clear on this point:

> 'At this time the blood from the wounds spurted out and stained the rocks, trees, and herbage. This is the reason that herbs, trees, and pebbles naturally contain the element of fire.'

These myths, touching sometimes upon cosmogony, sometimes upon cosmology, but always coming from the same desire to explain the most varied phenomena, had, of course, to attempt to account for all the strange things in the animal world. For example, why has the *bêche-de-mer* (trepang) a peculiar mouth? Because long ago its mouth was slit as a Divine punishment:

'Ame-no-uzume-no-mikoto (Her Augustness the Heavenly-Alarming-Female) drove together all the things broad of fin and the things narrow of fin, and asked them, saying: "Will ye respectfully serve the august son of the Heavenly Deities?" upon which all the fishes declared that they would respectfully serve him. Only the *bêche-de-mer* said nothing. Then Her Augustness the Heavenly-Alarming-Female spoke to the *bêche-de-mer*, saying: "Ah! This mouth is a mouth that gives no reply!" and slit the mouth with her small string-sword. So at the present day the *bêche-de-mer* has a slit mouth' (*Kojiki*, 139).

In the same way the Breton legend explains how the plaice, for making a grimace at the Holy Virgin, ever after had a crooked mouth; and an Oceanic legend tells how the sole refused to sing, and was trampled upon by the angered fishes, and was flat ever after. In Japan itself a popular tale, which is not in the sacred books, but which is nevertheless undoubtedly very ancient, tells us that the reason why the medusa has no bones to sustain her shapeless substance is that, for being stupid in the performance of a task entrusted to her by the god of the Seas, she was so mauled by blows that she was reduced to pulp. In all these stories, as in that of the Biblical serpent condemned to creep for ever (Gn 3[14]), the punishment continues in the descendants of the afflicted animal—a very natural conclusion, since the established form of the animal precisely constitutes the *raison d'être* of the myth.

We find myths of this kind to an even greater extent in relation to man himself, his physical nature, and, above all, his death, which shocks his instinct of preservation. Like all primitive peoples, the ancient Japanese see in death an abnormal phenomenon. Natural death does not exist: death must be the work of some supernatural agent. The fatal fever of Izanami must be a manifestation of the god of fire, and the last illness of the hero Yamato-dake, who was seized with a sudden chill in an icy shower, must be the effect of the vengeance of the god of the mountain when he lost his way. Speaking in a more general way, just as the majority of civilized races claim a spiritual immortality which they deny to animals, so primitive man liked to believe that physical immortality would have distinguished him from all other beings, if death had not been introduced into the world by some mistake or as a mysterious punishment. This conception is found equally among Hebrews and Greeks, Kafirs and Hottentots, Fijians, New Zealanders, etc. The punishment hypothesis is that of the Shinto myth:

'Ama-tsu-hi-daka-hiko-ho-no-ni-nigi-no-mikoto (His Augustness Heaven's-Sun-Height-Prince-Rice-ear-Ruddy-Plenty) met a beautiful person at the august Cape of Kasasa, and asked her whose daughter she was. She replied, saying: "I am a daughter of Oho-yama-tsu-mi-no-kami (the Deity Great-Mountain-Possessor), and my name is the Divine-Princess-of-Ata, another name by which I am called being Ko-no-hana-saku-ya-hime (the Princess Blossoming-Brilliantly-Like-the-Flowers-of-the-Trees)." Again he asked: "Hast thou any brethren?" She replied, saying: "There is my elder sister, Iha-naga-hime (the Princess Long-, *i.e.* Enduring-, as-the-Rocks)." Then he charged her, saying: "I wish to make thee my wife. How will this be?" She replied, saying: "I am not able to say. My father, the Deity Great-Mountain-Possessor, will say." So he sent a request to her father the Deity Great-Mountain-Possessor, who, greatly delighted, respectfully sent her off, joining to her her elder sister Princess Long-as-the-Rocks, and causing merchandise to be carried on tables holding an hundred. So then, owing to the elder sister being very hideous, His Augustness Prince Rice-ear-Ruddy-Plenty was alarmed at the sight of her, and sent her back, only keeping the younger sister Princess Blossoming-Brilliantly-Like-the-Flowers-of-the-Trees, whom he wedded for one night. Then the Deity Great-Mountain-Possessor was covered with shame at Princess Long-as-the-Rocks being sent back, and sent a message, saying: "My reason for respectfully presenting both my daughters together was that, by sending Princess Long-as-the-Rocks, the august offspring of the Heavenly Deity, though the snow fall and the wind blow, might live eternally immovable like unto the enduring rocks, and again that, by sending Princess Blossoming-Brilliantly-Like-the-Flowers-of-the-Trees, they might live flourishingly like unto the flowering of the blossoms of the trees: to ensure this, I offered them. But owing to thy thus sending back Princess Long-as-the-Rocks, and keeping only Princess Blossoming-Brilliantly-Like-the-Flowers-of-the-Trees, the august offspring of the Heavenly Deity shall be but as frail as the flowers of the trees." So it is for this reason that, down to the present day, the august lives of Their Augustnesses the Heavenly Sovereigns are not long' (*Kojiki*, 140–142).

This curse seems at first sight to apply only to the Imperial line, but there is no doubt whatever that, in primitive thought, it was meant to explain why all men are mortal. This is proved by the following variant of the *Nihongi* (i. 84):

'Iha-naga-hime, in her shame and resentment, spat and wept. She said: "The race of visible mankind shall change swiftly like the flowers of the trees, and shall decay and pass away." This is the reason why the life of man is so short.'

There is a rather striking resemblance to be seen between this myth and a legend of the North American Indians: the Pebble and the Bush were with child at the same time, but the children of the Bush were born first; that is why man is subject to death. Iha-naga-hime also recalls in a wonderful manner O-te-papa, the rock-wife of Tangaloa, in Polynesian myth.

Besides death, life also has its place, especially among a light-hearted people like the ancient Japanese, whom even Buddhism itself could not subdue. They sought to probe to the origin of death, but they understood none the less that this was not the only problem of their destiny. They admired life with its fertility; and another important myth proceeds to tell how, in spite of the calls of the region of darkness, humanity develops and triumphs in the immortality of its perpetual rejuvenation. Izanagi, the father of men and islands, fled from the subterranean kingdom, pursued by the Furies, the Thunderbolts, and all the horrible army of Hades.

'Last of all his younger sister Her Augustness the Princess-Who-Invites came out herself in pursuit. So he drew a thousand-draught rock, and blocked up the Even Pass of Hades (Yomo-tsu-hira-saka, forming the frontier-line between Hades and the World of the Living), and placed the rock in the middle; and they stood opposite to one another and exchanged leave-takings; and Her Augustness the Female-Who-Invites said: "My lovely elder brother, Thine Augustness! If thou do like this, I will in one day strangle to death a thousand of the folks of thy land." Then His Augustness the Male-Who-Invites replied: "My lovely younger sister, Thine Augustness! If thou do this, I will in one day set up a thousand and five hundred parturition-houses (the separate hut for a woman about to be delivered). In this manner each day a thousand people would surely die, and each day a thousand and five hundred people would surely be born."'

Izanami is thus conquered; Izanagi prevails; and in commemoration of his victory the Japanese thereafter called themselves Ame-no-masu-hito-ra, 'the heavenly surplus-population.'

All these stories—the common aim of which was to answer the innumerable questions of primitive curiosity regarding the affairs of Nature and of man, of physical phenomena and living beings, the origin of the world and its present appearance, in short, regarding everything that afterwards constituted the complicated object of the sciences—provide us with a mythology in which cosmogony holds the place of honour, and cosmology is only beginning to appear. The ancient Japanese felt themselves enveloped in mysteries which they would have been glad to solve; but, as the limited extent of their knowledge set strict bounds to their attempts, they soon tired of looking for these causes; they accordingly stopped short with infantile explanations which seemed satisfying to them, but which could scarcely approach a deep investigation of the laws that underlie the sensible world. It was only under Chinese influence that this type of investigation developed, and that the ancient mythology became complicated with abstract principles, as we have seen in the typical example of the story of the creation in the *Nihongi*. This desire to harmonize national tradition with the philosophical ideas of China, or even of Europe, was bound to end in the most ludicrous theories in the hands of the modern Shintoist theologians. Thus, *e.g.*, they attempted to explain the origin of the stars, sometimes by investigating whether they might have sprung from the excess of material stirred up and scattered into space by Izanagi's spear, sometimes by supposing that the shell of the primitive egg got broken, and that the fragments were caught up by the rotatory motion of the sun and thus drawn into the astronomical whirl (Hirata, *Koshiden*, 1812, ii. 36, 38). But these apologist fantasies are clearly foreign to the simple cosmogony and embryonic cosmology of the ancient Japanese.

LITERATURE.—W. G. Aston, *Nihongi* (*Trans. of the Japan Society*, Supp. I.), London, 1896, and *Shinto, the Way of the Gods*, London, 1905; B. H. Chamberlain, *The Kojiki* (*TASJ*, vol. x., Supp.), reprinted, Tokyo, 1906; K. Florenz, *Nihongi, Zeitalter der Götter* (Supp. to *Mittheilungen der deutschen Gesellsch. für Natur- und Völkerkunde Ostasiens*), Tokyo, 1901; W. E. Griffis, *The Religions of Japan*, New York, 1896; M. Revon, *Le Shinntoïsme*, Paris, 1907, and *Anthologie de la littérature japonaise*, Paris, 1910; Ernest Satow, *The Revival of pure Shinto* (*TASJ*, vol. iii., appendix), reprinted, Tokyo, 1883.

MICHEL REVON.

COSMOGONY AND COSMOLOGY (Jewish).

—Speaking generally, it may be said that speculation as to the origin of the world was not encouraged during the early Rabbinic period. Between Biblical times and the era of the Jewish philosophers, cosmology in the modern sense can scarcely be said to have flourished, and ultimately it is so closely connected with philosophy itself that separate treatment is scarcely possible. The well-known verses of Ben Sira (Sir $3^{21\text{f.}}$),

> 'Search not the things that are too wonderful for thee;
> And seek not that which is hid from thee.
> . . thou hast no business with the secret things'
> (tr. C. Taylor),

are quoted in Talmud and Midrash, and are applied to this form of investigation (see *JQR* iii. [1890–1] 690; Bab. *Ḥagiga*, 13*a*, etc.; Midr. *Bereshith Rabba*, ch. viii.; cf. also parallel passages quoted in *JQR* iii. 698). It may also be said that, in most cases where cosmological elements are found in Rabbinic sources, the scientific character is subordinated to the religious. Leaving the Biblical records, the following are the main groups of writings, during this intermediate period, which deal with the question of creation: (1) references in Talmud and Midrash (cited above); (2) special references to the 'Logos' as distinct from other means of creation; (3) Ḳabbalistic writings and references, such as the *Sepher Yĕṣira* and the *Zohar*, etc.

With regard to the first class, the verses of Ben Sira which have been cited are typical of the disapproval displayed by the Rabbis towards cosmological study. With them should be carefully compared the Gemara in the first Mishna of the second *pereq* of *Ḥagiga* (11*b*). This passage is the *locus classicus*, though scarcely less noteworthy are the beginnings of *Genesis Rabba* and *Tanḥuma*. It is evident that the dislike of the Rabbis to the study of cosmology was due to two causes—the fact that the material and method appeared to be Greek in origin, and the fact that such study sometimes led to atheism and apostasy. In support of this the famous story of Elisha b. Abuya (Aḥer) (cf. *Ḥagiga*, 15*b* foot, etc.) may be recalled. The study of Greek mythology and philosophy leads to Hellenization, and must be discouraged.[1] It would seem, however, that the ardour for these studies grew, in spite of checks from the Rabbis; and the latter seem to have abandoned a policy of resistance and adopted a new attitude—that the creation of the world must be shown to have depended entirely on the Divine power. Hence the early chapters of *Bereshith Rabba* are devoted to proving that God, and God alone, is the Creator. There are clear traces of replies, on the part of the Rabbis who are there quoted, to opponents, who seem to have been Gnostics and dualists, by whom the Biblical scheme of creation is rejected; in some cases it would seem as though we were face to face with Pantheistic ideas, but that would be difficult to establish. The *creatio ex nihilo* is frequently affirmed, but this question, as well as that of the 'eternity of matter,' belongs to Jewish philosophy rather than to cosmology; they cannot be considered without reference to later writers, *e.g.* Maimonides and Judah Hallēvi.

Each of the three great Semitic religions has had to face the problem of harmonizing a doctrine of pre-existence, in some shape or form, with a concurrent belief in the *creatio ex nihilo*. In the case of Christianity it is the Arian controversy. Among the Muslims, the question of the Qur'ān—whether it was created or eternal—was one of the points on which the Mu'tazilite heresy turned. But in Judaism, at least in the early period, the question of the pre-existence of the Torah was never a burning one. It was the application to the Torah of Pr 8^{22} that gave rise to this belief. Perhaps Gnostic ideas were originally responsible, but at all events it is certain that Jewish theology, whether private or official, was not seriously disturbed. Had this been the case, the doctrine must have been pushed to its logical conclusion, and it would have been alleged that the Torah had some share in the actual work of creation (contrast *B. Rabba*, ed. Theodor, p. 6). But, while the *Bereshith Rabba* compares the Torah to the parchment plans of an architect, the functions of the Divine Creator are not only never usurped, but, on the contrary, the supremacy of the Godhead in the work of creation is emphatically stated. From this it may be inferred that the belief was never reduced to definite form. The same may be said of the passages in the Midrash. Their purpose is homily, not science; their concern is to praise the works of the Deity rather than to investigate the ways of Nature or to explain the riddle of the universe. This is clear from the methods employed. A verse of Scripture is regularly interpreted by natural phenomena, and the functions of heaven and earth are derived philologically from the Bible. Had the objective of the Rabbis been practical, a different plan would have been adopted. As it is, arguments *post factum* are quite legitimate and in keeping with the purpose.

To imagine that the Rabbis would have been content with such methods of argument, or would have considered them adequate, is impossible for two reasons. (1) This would overlook the true character of Haggāda (*i.e.* allegoric homily); and (2) it would imply ignorance of the scientific capabilities of the Rabbis. It is only necessary to turn to astronomy, in order to see what they could achieve. Hence it is desirable, for cosmological purposes, to pass over *Bereshith Rabba* and most Talmudical passages. It is also fair to exclude the famous controversy of Hillel and Shammai as to the relative precedence of Heaven and Earth[1] in this category (*Ḥag.* 12*a*), because their objective also was religion, not science. On the whole, the dogma of the *creatio ex nihilo* was accepted, though not without reservations and even opposition. In 2 Mac 7^{28} the author speaks actually of a creation ἐξ οὐκ ὄντων, but Wis 11^{18} prefers the theory of re-arrangement of existing matter rather than creation.[2] Philo allegorizes: God gave the form, not the matter; though, of course, ultimately He is the Creator. According to the beginning of *de Opific. Mundi*, the world was created for the תּוֹרָה; and with the תּוֹרָה all natural phenomena must be in harmony. This is perhaps an extension of the Midrashic thought that the world was created בִּזְכוּת הַתּוֹרָה (*B. Rabba*, ed. Theodor, p. 9, line 9). Philo's Logos does not perform quite the same functions as the Mishnic or Targumic Logos or Memra—if such a term may be used. In *Aboth* (v. 1) we read that the world was created by ten מַאֲמָרוֹת, or sayings; that is to say, וַיֹּאמֶר, 'And God said,' occurs ten times with reference to the Creation. Now this theory has developed from what may briefly and conveniently be described as the Targumic attitude—the objection to anthropomorphism. The Maămār, or Memra, to some extent intervenes and becomes the mouthpiece or instrument of creation. This gives rise to theories of Mediators, whether in form of Demiurge or of Meṭaṭron, which are, however, often expressly repudiated: e.g. ***Bereshith Rabba*** (ed. Theodor, p. 5, l. 10, and p. 27, l. 3), where the date of the creation of angels is discussed. The question is in itself unimportant. Stress is laid on the fact that they could not have been created on the first day, lest any share in the work of the creation should be ascribed to them. Meṭaṭron (*μετὰ θρόνον* or *metator*?) is mentioned by name frequently (cf. *Sanhedrin*, 38*b*, which is a warning against ascribing Divine powers to Meṭaṭron). It may be doubted whether it was ever believed that the Maămārôth actually exercised functions; it is more probable that the idea was invented to account for the text, and repudiated when felt to be dangerous. At all events it cannot be included in true cosmology.

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[1] Cf. *Ḥagiga*, 11*b*, אֵין דּוֹרְשִׁין . . . בְּמַעֲשֵׂה בְרֵאשִׁית בִּשְׁנַיִם, 'Men are not to expound . . . the work of Creation with two (*sc.* disciples),' tr. Streane.

[1] This was one of the questions asked by Alexander of Macedon (see *Tamid*, 32*a*, and *B. Rabba*, ed. Theodor, p. 13).

[2] ἡ παντοδύναμός σου χεὶρ κτίσασα τὸν κόσμον ἐξ ἀμόρφου ὕλης.

In considering the Ḳabbala, which, of course, belongs really to a later period, the same air of unreality is experienced. In the *Sepher Yĕṣira* and similar works, permutations and arrangements of numbers and letters are the basis of argument, and this is typical of the whole mystical outlook of the Ḳabbala. A close relation is postulated between the real and the unseen, between the written word and the abstract idea of which it is the symbol; hence it was believed to be possible to extract the spiritual from the physical form, *i.e.* from the word in which it was confined. The deductions are, of course, ingenious, but they are reached by literary or quasi-philological arguments. It is obvious that either scientific investigation or carefully selected tradition must form the foundation of cosmology, and it cannot definitely be stated to what practical extent the authors of Ḳabbalistic reasoning desired their results to be taken. The truth is that between the period of the Bible and that of the mediæval Jewish philosophers there is no real cosmology. The Scriptures supplied the needs of all seekers, until Judaism was brought face to face with Aristotelianism and Neo-Platonism. Hitherto cosmology was not taken seriously in the scientific sense, it was mere homily; but henceforward it became an integral portion of the system of each thinker. It is impossible to discuss the theories of יֵשׁ מֵאַיִן, *creatio ex nihilo*, in mediæval times, apart from the rest of the philosophy which was established upon it.

LITERATURE.—There is a critical edition of the Midrash *Bereshith Rabba* by J. Theodor (Berlin, 1903). For those unacquainted with Hebrew the Talmudic references may be studied in M. L. Rodkinson's tr. (*Hagiga*=vol. vi.), New York, 1899, or preferably in L. Goldschmidt's Germ. tr. (Berlin, 1897 ff.). The treatise *Hagiga* was translated (with notes, etc.) by A. W. Streane, Cambridge, 1891. Some idea of the Midrash may be obtained from S. Rapaport's *Tales and Maxims from the Midrash* (London, 1907); see also *JE*, artt. 'Cosmology,' 'Creation.'

HERBERT LOEWE.

COSMOGONY AND COSMOLOGY (Mexican and South American).—I. Mexico.—On the origin and constitution of the universe the ancient Mexicans developed a number of complex and, in part, discordant myths. In the earliest times, according to Sahagun's version, the gods assembled in Teotihuacan for the purpose of debating who was to govern the world and who was to be the sun, for at that time there was no daylight. A deity named Tecuciztecatl offered to illuminate the world. His compeers asked who would act as his mate, but none of them could summon sufficient courage, each offering excuses. At last they delegated the task to Nanauatzin, who was afflicted with the pox (*buboso*), and he cheerfully acquiesced. The luminaries-elect then began a four days' penance. A fire was built, and both made their offerings. After the four days had elapsed, Tecuciztecatl and Nanauatzin received their ceremonial vestments. The gods ranged themselves in two rows, one on either side of the fire, and first called upon Tecuciztecatl to leap into the flames. The deity approached the blaze, but recoiled from its excessive heat. Four times he made the attempt, and four times he abandoned it. Then the gods ordered Nanauatzin to try. He mustered up all his courage, closed his eyes, and leapt into the flames. Immediately a crackling sound was heard. Then Tecuciztecatl followed suit. When the two deities had been completely consumed by the fire, the other gods seated themselves, expecting to see them rise. After a long period of waiting, the sky assumed a reddish aspect, and there appeared the light of dawn. The gods fell on their knees and turned hither and thither, not knowing from what quarter the sun would come, for the light of dawn was shining everywhere. At last it rose from the east, swaying to and fro, and dazzling the onlookers with its brilliancy. Presently the moon rose from the same cardinal direction. They appeared in the same order in which the two gods had entered the fire. At first sun and moon were equally brilliant. The other gods debated whether this was proper, and decided in the negative. Then one of them began to run, and struck Tecuciztecatl's face with a hare. Straightway it turned darker, lost its splendour, and assumed the present appearance of the moon. Though the sun and the moon had thus been created, they were still stationary. The gods asked one another: 'How could we live under these conditions? The sun does not move. Are we to spend all our life among unworthy mortals? Let us all die, so that our death may animate these luminaries.' The wind then offered to kill the gods, and did so. Still the sun did not begin to move. At last the wind blew so violently that he forced the sun to commence its journey, but the moon remained stationary for a while. Finally, it also began to move. Thus, sun and moon became separated and assumed the habit of rising at different hours of the day. Had Tecuciztecatl leapt into the fire before Nanauatzin, he would have been the sun.[1]

A somewhat similar version has been recorded by Mendieta. Çitlalatonac and Citlalicue appear as the primeval deities. The latter bore a flint, which her enraged sons hurled to the earth. From the shattered stone there developed 1600 gods, who asked their mother for permission to create mankind. Citlalicue referred them to Mictlantecutli, who was to furnish them with the bones and ashes of the deceased. The messenger of the gods received the required objects from the lord of the under world, but, lest Mictlantecutli might recall his gift, he fled in haste, stumbled, and broke the bones. He quickly gathered the fragments and presented them to the gods, who enclosed them in a bag and bespattered them with their own blood. On the fourth day there issued forth a boy, and on the eighth a girl. These became the ancestors of mankind. The sun was not yet in existence. The gods assembled in Teotihuacan and announced that whosoever would jump into the fire should be transformed into the sun. One man ventured to leap in, and the spectators anxiously watched for the rising of the sun. In the meantime they laid a wager that the animals present would not be able to guess the place whence the sun would rise, and, as the animals actually failed to do so, they were all sacrificed. At last the sun appeared, but did not move. Angered by his immovability, Citli ('Hare') let fly three arrows at him, wounding him twice. The enraged solar deity hurled one arrow back at the enemy, piercing his forehead. The gods then recognized their relative inferiority, and consented to be sacrificed. Xolotl tore out their hearts, and himself committed suicide. Appeased by this sacrifice, the sun began his daily course.[1]

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[1] Sahagun, *Hist. gén. des choses de la Nouvelle-Espagne* (Paris, 1880), 478–482.

A rather different tale is narrated in the Zumarraga Codex. There dwelt originally in the thirteenth heaven a Divine couple, Tonacatecutli and Tonacacihuatl, who begat four sons, viz. Camaxtli, Yayauquitezcatlipuca, Quetzalcoatl, and Huitzilopochtli. After 600 years of inactivity these four created the world. Quetzalcoatl and Huitzilopochtli created fire and a half-sun, the first pair of human beings, the days, the denizens of infernal regions, the heavens beyond the thirteenth, and finally water and the monster Cipactli. In the further creation the entire quartet participated. They formed the sea-deities Tlalocatecutli and Chalchiuhtlicue, and then created out of Cipactli the earth and her deity Tlaltecutli. The first human pair, Oxomoco and Cipactonal, begat a son who married a woman shaped out of Xochiquetzal's hair. As the half-sun gave forth but little light, it was decided to perfect it, and accordingly Tezcatlipoca transformed himself into a real sun. Then the giants were created. After Tezcatlipoca had shone for 676 years (13 cycles), Quetzalcoatl hurled him into the water, himself assuming solar functions, while his enemy transformed himself into a tiger which devoured the giant race. In commemoration of this event, there developed the constellation of Charles's Wain, which represents Tezcatlipoca descending into the ocean. After Quetzalcoatl had served for an equal space of time, his rival hurled him headlong with a blow of his paws, causing a tempest that destroyed the majority of human beings. Then Tlalocatecutli reigned as the sun for 364 years (7 cycles), but Quetzalcoatl drove him away by means of a torrent of fire and installed Chalchiuhtlicue in his place. She served in this position for 312 years (6 cycles), then a deluge occurred, mankind were changed into fish, and the heavens fell down. The divine quartet next opened a passage under ground, and created four men. By the joint efforts of all of these the sky was raised to its present altitude. As a token of his gratitude, Tonacatecutli transferred to his sons the sovereignty of the stars, they settled in the heavens, and by their migrations they are smoothing the path known as the Milky Way. Two years later Tezcatlipoca first produced fire by friction, and, several years later still, a new race of man was created. After the lapse of five years, the gods decreed the formation of a new sun. War was waged in order to secure a sufficient number of human sacrifices for the sun, then the gods fasted, drew blood from their own bodies, and heaped up firewood. Into the blaze Quetzalcoatl cast his own son, who thus became the sun. Tlalocatecutli, however, threw *his* son into the ashes, thus making him rise as the moon, which continually follows the sun without ever overtaking it. Both luminaries wander through the air without ever reaching the heavens. The Codex Vaticanus mentions the bi-sexual deity Ometecutli as the creator of the universe. He creates the first human pair, Oxomoco and Cipactonal. These beget Tonacatecutli, to whom the later stages of creation are due.[1]

The modern Tarahumare believe that the present world was preceded by many others, all of which were destroyed. In these earlier periods all the watercourses flowed eastward, but now there are also some rivers that empty into the Pacific. Originally, the world was but a waste of sand, which the bears put into shape. The rocks were at first soft and small, but they grew to be large and hard. The people grew up from the soil, and the earth was quite level. At that time men lived to be only one year old, dying like the flowers. According to another tradition, they came from heaven with corn and potatoes in their ears, and were led by Tata Dios—a solar character designated by a Christian name—into the mountains, the middle of the world. In the beginning, the Morning Star was the only heavenly body to illuminate the earth, and the 600 Indians then in existence were greatly irritated by the surrounding darkness, for they were unable to do their work and were continually stumbling about. The sun and the moon were then children, dressed in palm-leaf garments and dwelling in a house thatched with palm leaves. The Indians at last dipped small crosses into *tesvino* (native beer) and with them touched the sun and the moon on the chest, on the head, and on the back. Then they began to shine.[2]

2. Maya.—The creation-myth of the ancient Quiché is the fullest cosmogony of the Maya stock now accessible to us. In the beginning there were heaven and water, but everything was stagnant and dark. Gucumatz, Tepeu, and Hurakan held a council and created the world, forming mountains, plains, and rivers. First there appeared the vegetable, and later the animal, kingdom. But the animals were unable to call by name or greet their creators, and were accordingly condemned to be killed and eaten. Next the gods created men out of clay; but, as this material lacked vitality, it dissolved in the water. Then the deities invoked the aid of Xpiyacoc and Xmucane, and created a man out of the wood of one tree and a woman from the sap of another. Both were able to move about and propagate their kind, but they lacked intelligence and lived like the brute creation. Accordingly the gods sent showers of pitch which caused a flood, and wild animals which destroyed the race. From the few survivors are descended the small monkeys dwelling in the forests. At last there were created four perfect men out of yellow and white maize: Balam Quitze, Balam Agab, Mahucutah, and Iquibalam. These were intelligent, and were able to perceive things far and near by the light of the morning star, and to penetrate the most recondite matters. Rejoicing in their powers, they thanked their creators. The latter, however, became envious of their creatures and blew a cloud over their eyes, so that they were able to see only what was near. While the men were asleep, the gods created four women for them. The race multiplied, but, as they lacked patron deities, they moved to Tulan Zuiva, where they acquired the necessary divinities.

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[1] G. Brühl, *Die Culturvölker Alt-Amerikas* (New York, 1875–1887), 400.

[1] Brühl, *op. cit.* 398–401.

[2] Lumholtz, *Unknown Mexico* (New York, 1902, London, 1903), i. 296–298.

Tohil, one of these tutelary gods, gave fire to the people, but it was extinguished by rain and hail, and Tohil then created it anew by stamping his feet. Owing to the suffering undergone by the people in Tulan, they abandoned the place under Tohil's guidance, and, after long-continued migrations, reached Mt. Hacavitz. There sun, moon, and stars were called into being, though they did not then shine as brightly as they do now. The origin of these heavenly bodies, however, is differently accounted for in the myth of Hunahpu and Xbalanque, the miraculously born twin heroes of Quiché folklore. In order to avenge their father's death, the brothers descend to the infernal realm of Xibalba, and slay their parent's murderers. They cause their father and his brother to rise as the sun and moon respectively, while 400 youths who had been killed by the Xibalba monarch's son are transferred to the sky as stars.[1]

The Maya proper of the present day believe that the world is in the fourth period of its existence. In the first era there lived the Saiyamwinkoob ('Adjusters'), the mythical dwarfish aborigines of Yucatan, who are credited with the construction of the ruins before the appearance of the sun. As soon as the sun appeared, these people turned to stone. Figures found in the temples of Chichen Itza and other archæological sites are supposed to represent the Saiyamwinkoob. After a deluge, another race, the 'Offenders,' came into being, but again a flood destroyed the greater part of the world, and the Masehualli, or modern Maya, rose to power. Another deluge occurred and ushered in the present period, during which a mixture of all the previous inhabitants of Yucatan took place. The present natives of Yucatan distinguish seven heavens, each of which has a hole in the centre, one directly above the other. A giant tree (*Bombax ceiba*) sends its branches through these seven openings, and by means of it the spirits of the dead clamber up to their final place of repose. One version substitutes a ladder of vines for the tree. The *Gran Dios* of the white man is believed to reside in the uppermost heaven, while the lower heavens are peopled by the older deities of the natives, now degraded to the rank of subordinate spirits. Below the earth there is an under world. The spirits of the dead first descend to this region for a short space of time, but soon begin their ascent to the upper worlds. Men who have died in war and women who have died in childbirth are absolved from the obligation to visit the under world, and commence their ascent without delay.[2]

3. **Chibcha.**—The Chibcha philosophers postulated as the original substance *chiminigagua*—light enclosed in some undefined envelope. When the light freed itself from this covering, it created black birds which flew through the world, emitting radiant air from their beaks. Later it created all living things save men. Mankind traced their descent from a woman named Bachue (or Fuzachogue) and a boy, both of whom issued from a lagoon in the vicinity of Tunja. On reaching puberty, the boy married his companion, and their numerous progeny soon peopled the entire country. According to another myth, mankind was created by the *caciques* of Sogamozo and Ramiriqui—men out of yellow earth, and women out of hollow plant-stems. As darkness reigned over the earth, the *cacique* of Sogamozo bade his nephew, Ramiriqui, ascend to the sky and illuminate the world. Nevertheless, the night remained dark. Accordingly the *cacique* transformed himself into the moon. An interesting cosmological concept was connected with the myth of Chibchachum. This deity, angered by the inhabitants of Bogota, had afflicted them with an inundation of the Sopo and Tibito rivers. The Indians prayed to Bochica, who put a stop to the devastation of the country and punished Chibchachum by ordering him to support the earth, which hitherto had rested on wooden props. Earthquakes originated whenever the tired Atlas shifted his burden from one shoulder to the other.[1]

4. **Peru.**—A number of essentially different Peruvian cosmogonies are recorded in the earlier writings. According to one legend, Con, a boneless son of the sun and the moon, created the world and man, levelled mountains, and raised valleys by his supernatural powers. He is said to have come from the north. J. von Tschudi regards him as the deity of the Chimu, the natives of the north-western coast district. Con became displeased with the dwellers of the coast, and converted the region into a desert, though he mitigated this punishment by allowing some rivers to flow through the land so that the people might slake their thirst, and also provided his creatures with wild herbs and fruits. After him came Pachacamac, another son of the sun and the moon, and Con disappeared. Pachacamac transformed into birds, apes, pumas, and other animals the human race called into being by his brother. He then created the Indians of historical times, giving them for their occupation the cultivation of fields and the growing of fruit. Turruel's fuller account relates that in the beginning of the world Pachacamac created a man and a woman, without, however, supplying them with food. The man starved, but the woman prayed to the sun for relief, and the deity descended, comforted her, and impregnated her with his rays, so that she gave birth to a son four days later. Pachacamac, however, was angered at the thought that she had supplicated his father rather than himself, destroyed the infant, cut him in pieces, and sowed the dismembered parts of the child's body. From the teeth grew corn, from the bones yuccas, and from the flesh all the other fruits and vegetables. Thus, the Indians were indebted to Pachacamac for their food. The slain child's mother, however, clamoured for revenge. The sun again took pity on her, and created another son, Vichama, out of the murdered infant's umbilical cord. When grown to maturity, Vichama set out to journey all over the world. In the meantime Pachacamac killed his mother and caused birds of prey to devour her body, except the hair and bones, which he left near the shore. Then he created men and women, and appointed chiefs to rule over them. When Vichama learned of his mother's death, he restored her to life from her concealed hair and bones; then he set out to avenge her destruction. Pachacamac threw himself into the sea where afterwards stood the temple and city named after him. Vichama devastated the fields, and implored the sun to turn the people of Vegueta into stone, because, he alleged, they had participated in his mother's murder. Thus, all Pachacamac's creatures were transformed into stones. Repenting of their deed, the sun and Vichama transferred the former chiefs and nobles to the coast, setting them up there as *huacas* to be worshipped in the future. Then Vichama implored his father to create a new race. The sun gave him eggs of gold, silver, and copper, from which there developed the chiefs, their wives, and the common herd, respectively. Still another legend derives mankind from two male and two female stars sent down to earth by Pachacamac.[2]

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[1] Brasseur de Bourbourg, *Popol Vuh* (Paris, 1861), 1–31, 187–193; Brühl, *op. cit.* 447 f.

[2] A. M. Tozzer, *A Comparative Study of the Mayas and Lacandones* (New York and London, 1907), 153–156.

[1] Brühl, *op. cit.* 461 f., 458.

[2] Uhle, *Pachacamac* (Philadelphia, 1903), 49 f.; Brühl, *op. cit.* 464 f.

On the shores of Lake Titicaca there developed variants of another myth. Before the reign of the Incas, the natives believed, there was no sun, and their ancestors prayed to the gods for light. Suddenly the sun rose radiant from the island of Titicaca. At the same time there appeared from the south a white man of slim figure, who levelled the mountains and caused springs to gush forth from the rocks. Hence he was regarded as the author of all things, the creator of the sun, mankind, and the brute creation. He travelled northward, and never retraced his steps. In the course of his journey he admonished the Indians to live in peace. The name by which he was commonly known was Ticiviracocha. Some time after his departure there appeared another man who cured the sick and wrought miracles. The inhabitants of Pueblo Cacha, however, rose against him, and were about to stone him to death; but he merely raised his hands, and flames darted from the sky, threatening to consume his assailants. Taking pity on the terrified Indians, he extinguished the fire, leaving only the burnt rocks as evidence of his power. He then wandered to the coast, spread his cloak over the waves, and vanished from sight. The name of this second wonder-worker was Viracocha. For a more substantial creation-tale we are indebted to Betanzos. Long ago, according to his narrative, there rose from a lake Con Tici Viracocha, who created heaven and earth and mankind, but did not supply them with light. Offended by man's ingratitude, he transformed the race into stones. He again rose out of the lake with several companions, created the sun in Tiahuanaco, and later the moon and the stars. Next, he re-peopled the earth in the following way: for every province he fashioned a number of stone images; then he sent all but two of his companions towards the east, where they called into being such people as their master had indicated in his stone effigies; finally, he dispatched, with similar powers, the two men that had remained with him, one to Condesuyo, and the other to Andesuyo, while he himself wandered to Cuzco, creating human beings as he passed along. In Pueblo Cacha he was attacked by the newly created Indians, but reduced them to submission, as in the version already quoted. In Cuzco he also created a tribe, and gave to the place its name. When he arrived at the seashore, he was joined by his associates, and they all walked across the sea as though it were solid earth. The full name given to this creator is Con Tici Viracocha Pachayachachic, while his assistants figure as 'viracochas' generically. In Molina's version, the two *viracochas* that remained with their master after the others had set out on their mission are called Ymaymana Viracocha, and Tocapo Viracocha. The former was credited with having named trees and plants, and with having instructed the Indians as to their nutritive and medicinal virtues. Tocapo, on the other hand, named the rivers, and taught the people about the fruits and flowers. According to the same variant of the myth, the sun, while rising from the Island of Titicaca in human shape, addressed the ancestors of the Incas, promising them that their descendants would rule the land and subject many tribes.[1]

5. Primitive tribes.—The *Arawak* of Guiana say that, before the existence of mankind, a being broke off twigs and pieces of bark from a silk-cotton tree and threw them broadcast around him. Some turned into birds; others fell into the water and became fish; still others fell on land and became beasts, reptiles, men, and women. The *Warrau* myth begins with a period when the ancestors of the Indians lived in the sky. There Okonorote', a great hunter, once pursued a bird for many days. At length he was able to shoot it, but his quarry fell into a deep pit and was lost to sight. Okonorote', however, saw daylight in the pit, and soon discovered a land down below, inhabited by many quadrupeds. He hung a long piece of bush-rope down towards the earth, and climbed down. After a successful chase, he returned home with some venison. The Warrau relished the food so much that they decided to emigrate to the earth. After many of them had climbed down, a woman of large proportions got stuck in the opening, and, though her fellow-tribesmen attempted to extricate her, it was found impossible. Accordingly, those Warrau who were already on the earth were obliged to remain in their new place of residence, while those who were still in the sky-land could not but stay in the upper regions. The same story, with trifling modifications, is told by the Carib Indians.[1]

The *Bakairi*, a Carib tribe living on the affluents of the upper Xingu river, regard the sun as a large ball made of the feathers of the red macaw and the toucan, and the moon as a corresponding ball of the tail feathers of the Cassicus. The sun is covered at night with a large pot, which is removed at daybreak. During the rainy season it is carried by a snail, during the dry season by the fast-flying humming-bird. The waning of the moon is due to the successive appearance of a lizard, an ordinary armadillo, and a giant armadillo, the last of which completely covers the feather-ball. Corresponding explanations are offered for solar and lunar eclipses. Orion is a frame for drying manioc, the larger stars form doorpost knobs, and Sirius constitutes a large cross-beam supporting the frame on the side. The Pleiades are simply a pile of flour-grains. The firmament shows merely a duplication of terrestrial affairs: the Indians find there manioc, cultivated soil, forests, etc. The Milky Way is a huge tomtom, near which the two culture-heroes, Keri and Kame, performed their deeds. Other heavenly phenomena are regarded as a jaguar, ant-eater, vulture, etc.

The place of a genuine cosmogony is taken by a number of myths, accounting not so much for the ultimate origin as for the more or less miraculous arrangement and regulation of observed phenomena through the power of the twin culture-heroes, Keri and Kame. Practically everything now existing in the universe is believed to have existed from the very beginning: there were even some Bakairi tribesmen and members of other tribes. Conditions, however, represented a sort of topsy-turvydom as compared with the present cosmos. In the beginning the earth was the sky. Earth and sky were in close proximity, so that it was possible to walk to and fro. Keri bade the sky shift its position, for his people were dying; but the sky refused to do so. Then Keri decided to depart. Accordingly, he and all his tribe went to the earth, and the sky rose to its present height. The sun was in the possession of the Urubú vulture; when the bird was away, darkness reigned supreme. Owing to this darkness, the tapir fell into a pit belonging to the Urubú. Keri saw him and entered one of his front feet; while Kame, who had entered a little yellow singing-bird, was to inform his brother of everything that was going on. When the vulture swooped down on his prey, Keri seized him and, on pain of death, ordered him to surrender the sun. The Urubú dispatched his brother to bring the sun, but his messenger only came back with the dawn. Sent back again, the vulture's brother offered Keri the moon, but the hero persisted in his demand until the sun was presented to him. Then he released the Urubú. The sun was shining continually, and Keri did not know what to do with it, though finally he covered it with a large pot, which was simply removed to make daylight. Thus, the latter-day distinction of day and night was first introduced. The moon was given to Kame. Another quasi-cosmogonic tale accounts for the origin of the Paranatinga and Ronuro-Kulisehu rivers. Keri and Kame were sent for water. They found three pots with water, but broke two of them, so that the water flowed down, forming the water-courses in question.

The remaining origin-tales of the Bakairi, though for the greater part belonging to the same cycle, are not cosmogonic at all, but merely narrate the heroes' exploits in acquiring fire, manioc, tobacco, the hammock, and other necessaries of life for the benefit of mankind.[2]

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[1] Brühl, *op. cit.* 464–472.

[1] E. F. Im Thurn, *Among the Indians of Guiana* (London, 1883), 376 f.

[2] K. von den Steinen, *Unter den Naturvölkern Zentral-Brasiliens* (Berlin, 1894), 357–386.

The *Paressi*, though members of the Nu-Arawak family, possess a number of cosmic notions akin to those of the Bakairi. They also believe the sun to be composed of red macaw feathers, which are hidden in a gourd at night and uncovered by their owner at daybreak. The moon consists of yellow 'mutung' feathers. The full moon begins to wane when a thin spider appears on its edge, and it is successively covered by four armadillos, the last being the giant armadillo, *Dasypus gigas*. The galaxy is dotted with countless yellow fruits, and of the stars many are recognized as an ostrich, jaguar, or some other animal. In the beginning there was a woman named Maisö. Neither earth nor water was in existence, and there was no light. She took a piece of wood and introduced it into her body, from which there then issued forth the Rio Cuyaba. Its muddy stream was soon followed by the limpid waters of the Rio Paressi. Maisö then placed land in the stream, and thus made the earth. Maisö also gave birth to many quasi-human beings of stone, first of all being Darukavaitere, who married Uarahiulu. This couple procreated the sun, the moon, and all the other celestial beings, and assigned to each its place in the firmament. Next, Darukavaitere begat parrots and snakes, until Maisö made his wife conceive Uazale, the ancestor of the Paressi and the first really human being.[1]

Of the *Weltanschauung* of the *Bororo* we have, unfortunately, but a meagre sketch. Like the Bakairi and Paressi, they regard the sun and moon as bunches of macaw feathers. Mankind are believed to dwell on a large island in a river. The sun and moon, or their owners, are on one side and pass through the river; when they meet, the moon passes by and becomes the new moon. The Pleiades are the blossoms of a tree, Orion is looked upon as a tortoise, and single stars are generally regarded as sand-fleas, Venus, for example, being characterized as 'the large sand-flea.' The rainbow is supposed to be a large shamanistic water-snake. A meteor that appeared during the second German Xingu expedition was regarded as the soul of a shaman bent on afflicting some Bororo with dysentery.[2]

The cosmogonic notions of the *Jibaro* of Ecuador are insufficiently known. According to one tale, the world was fashioned by a great spirit who amused himself with manufacturing clay objects. He constructed a large blue vessel, and placed it where the sky is nowadays seen.

A more detailed account is given of the deluge. A member of the Murato sub-tribe was fishing in a lagoon. A little crocodile swallowed his hook, and was killed by the Indian. The mother of the crocodiles was so incensed at this deed that she struck the water with her tail, and flooded all the country bordering on the lagoon. All the Indians perished, save a single individual who climbed a *pivai* palm, where he stayed many days in utter darkness. From time to time he dropped a *pivai* fruit, but he invariably heard it strike water. One day, however, the fruit appeared to strike the earth. The Murato climbed down, built a lodge, began to till the soil, and planted a piece of flesh from his own body. From this there grew up a woman, whom he married. A deluge-myth derived from the *Cañari*, but also attributed by Suarez to the Jibaro, records the escape of two brothers, who fled from the flood to the top of a mountain, which continued rising with the elevation of the waters. After the flood the two Indians went in quest of food, and on their return were astonished to find some dishes already prepared in the hut they had constructed. One of the brothers hid himself in order to fathom the mystery, and discovered two parrot-women, who set themselves to preparing the meal. Suddenly rushing from his hiding-place, he seized one of the bird-women and married her. The couple had three sons and three daughters, who became the ancestors of the Jibaro.[3]

The *Carayá* of the Araguayá River believe that their ancestor, Kaboi, and his people once lived in the under world, where the sun shone when the earth was dark, and *vice versa*. Hearing the call of a bird, Kaboi decided to follow it. He got to an opening leading to the earth, but, while his companions succeeded in passing through it, he himself proved too large and was able to get only his head above ground. The other Indians gathered many kinds of fruit, also honey and bees, as well as dead and dry wood, and brought their finds to the chief. Kaboi told them that, while the country seemed to be beautiful and fertile, its inhabitants, as indicated by the dry wood, could not live to the old age that fell to the lot of their own people, for in the under world the Indians attained a very great age, and died only when they were too old to move any part of their body. In spite of this warning, the people preferred to stay above ground. Accordingly, while their fellow-beings in the lower regions are still in the prime of life, the descendants of Kaboi's companions are destined to die. At an apparently later period, two powerful beings, Tenira and Sokroa, hurled all the Indians into a blazing fire and then destroyed each other in a trial of strength. Only two dwarf parrots and two belated youths, returning from the hunt after the destruction of their fellow-tribesmen, escaped. When the young men set out on the next day to hunt, they heard the pounding of mortars, and on their return discovered that their meals had been prepared by unknown hands. This was repeated on the next day. On the third day they discovered that the food had been cooked by the two parrot-women, married them, and thus became the ancestors of the modern Caraya.

Another tale recounts the destruction of the Indians by a flood. The Caraya were out hunting and drove their game into a pit. After taking out the captured animals, they dug up the magician named Anatiuã, and brought him to their village. Frightened by his strange antics and unintelligible gibberish, they fled from him, but Anatiuã pursued them. He had with him numerous calabashes filled with water. By breaking these, he made the river rise until he had caused a deluge. The Indians fled to the top of two mountain-peaks, but Anatiuã summoned to his aid several species of fish. Finally, one fish possessing a beak-like mouth ascended the peaks from the rear, pushed the people down, and thus drowned them. Only a few of them escaped. These descended to the valley when the waters had fallen again.[1]

The *Caingang* of the State of Paraná (Brazil) tell of a great flood which submerged the entire world inhabited by their ancestors, with the exception of a single mountain-peak. The Caingang, the Kadjurukre, and the Kame all swam towards this summit, carrying firesticks in their mouths, but only the Caingang and a small number of Kuruton Indians reached the goal, where they stayed without food for many days, some lying on the ground, while others, for lack of space, were obliged to cling to the branches of the trees. They were beginning to give up hope when they heard the singing of *saracura* (water-fowl), which were carrying hampers full of earth. By dropping this into the water, they caused the flood to recede. The Indians shouted to them to make haste, which they did, asking the ducks to aid them. In a short time they got to the summit of the mountain and formed a platform, on which the Caingang departed, those that had clung to the branches of the trees being transformed into Monito, and the Kuruton into Caraya, Indians. Because the *saracura* had begun their work in the east, all the watercourses of the land flow towards the west into the Paraná. After the flood the Caingang established themselves in the vicinity of the mountains. The Kadjurukre and Kame, whose souls had gone to dwell inside the sierra, began to cut roads, and finally succeeded in getting out in two opposite directions. The Kadjurukre entered a level country watered by a brook and without rocks, so that their feet remained small. The road of the Kame, however, led to a rocky region, where their feet were bruised and swelled up to their present size. As there was no spring there, they had to beg water of the Kadjurukre. On leaving the sierra, the Caingang ordered the Kuruton to look for the baskets and calabashes which they had abandoned below before the deluge. The Kuruton departed, but were too lazy to re-ascend the mountain, so they remained where they were and never joined the Caingang. During the night following their departure from the sierra, they built a fire, and a Kadjurukre made tigers out of the ashes and coals, bidding them devour the people and the game. As he had not enough coal left for painting the creatures he meant to fashion next, he made the tapirs, painting them with ashes and bidding them eat game. But, as they were hard of hearing, they asked him to tell them again what to do. Being already engaged in creating another species, the Kadjurukre answered gruffly, 'Eat leaves and the branches of trees!' Since then they have eaten only foliage and the branches or fruits of trees. The Kadjurukre was making another animal, which still lacked a tongue, teeth, and several claws, when the day began to break. As he was unable to complete the animal in the daylight, he quickly put a thin rod in its mouth and said, 'As you have no teeth, feed on ants!' Hence the imperfections of the ant-eater. The next night the Kadjurukre resumed his labours and created other animals and insects, among them the bees. In the meantime the Kame had created other animals to combat his rival's, such as the pumas, venomous snakes, and wasps. All the Indians marched on together. The young men of the Kadjurukre's band married the girls in the Kame's, and *vice versa*; and, as there were still left a great many young men, these married the Caingang women. For this reason the Kadjurukre, Caingang, and Kame consider themselves allies and relatives of one another.[1]

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[1] Von den Steinen, *op. cit.* 435–439.

[2] *Ib.* 513–515.

[3] Rivet, *Les Indiens jibaros* (Paris, 1908), 91 f.

[1] P. Ehrenreich, 'Beiträge zur Völkerkunde Brasiliens,' *Veröffentlichungen aus dem königlichen Museum für Völkerkunde*, ii. (Berlin, 1891) 39–41.

The *Tupi* derive their origin from Monan, the creator. Offended by his creatures, this deity caused a universal conflagration, which destroyed all human beings save Irinmage. Upon the solicitation of Irinmage, Monan extinguished the fire, and afterwards gave him a wife. From the descendants of this pair there issued Monan Maire, who acted as culture-hero, transforming men into animals and establishing the cultivation of plants. However, the Indians feared him for his magic, and forced him to commit suicide. One of his descendants, Maire Poxi, dwelt in insignificance among mankind, but finally ascended to heaven radiant with beauty. His son vainly attempted to follow, being transformed into stone. Another scion of the same line, Maire Ata, begat the twins Tamendunre and Arikute. The brothers went in search of their father, who resided in the east, and were subjected to a number of tests. They proved their miraculous powers by shooting an arrow into the sky and sending an arrow into its notch, continuing this process until the chain of arrows was complete. They further passed through clashing rocks ('symplegades') and descended to the under world. In the course of their wanderings Arikute attacked his brother, who caused a deluge, from which both were obliged to flee, seeking the shelter of trees. After the flood they re-peopled the earth, becoming the ancestors of two tribal divisions.[2]

The *Araucanians* worship as their supreme deity the representative of thunder, lightning, and fire, the latter being regarded as the origin of all life. This deity, Pillan, is believed to reside on the highest summits of the Andes, and definite localities are still named after him. At a later period there appeared Mapu, the creator of the earth, and Pillan became his enemy, gradually assuming the character of an evil being. His messengers and subordinate genii introduced disease among the Indians and their cattle, but could be driven away by means of burning branches. One of these supernatural beings, named Cherruve, took the form of comets and large meteors, and generally resided near the crater of volcanoes. Smaller meteorites were inhabited by another form of being with human head and serpentine body. The moon, Anchimalguen, was the wife of the sun, and was formerly regarded as a beneficent deity. More recently, she is described as an *ignis fatuus*, who frightens the traveller by throwing herself under his horse's body. When the rider attempts to lasso her, she flees and seeks refuge in the hut of a witch.[1]

RÉSUMÉ.—While the material available for comparison is far from complete, some interesting historical problems present themselves to the student of Central and South American myths. So far as homologies occur among neighbouring tribes, or tribes linguistically affiliated, the theory of dispersion from a common source of origin offers the readiest explanation of the similarities in question. Thus, there can be no doubt that the Warrau and Carib myths recorded by Im Thurn have a common prototype, and the conception of sun and moon as balls of feathers can hardly be supposed to have originated independently among the Bakairi, Paressi, and Bororo. The surreptitious preparation of food by bird-women constitutes so characteristic a motive that, though the Jibaro are far removed from the Caraya, we cannot assume that the incident developed twice, and we must depend on future research to indicate more clearly the path of transmission. It is far more difficult to apply this theory to the South American deluge-myths. While in the northern half of the New World the deluge-myth generally assumes a stereotyped form from the Atlantic to the Pacific, embodying highly characteristic elements, the South American narratives of floods do not seem to be united by any striking element of likeness. In the absence of such homologies the possibility of independent development cannot be denied, and we might suppose with Andree[2] that, so far as the myths are autochthonous, the flood motive has been suggested several times by local inundations. In view of the cultural affinity of North and South America, the question broached by Ehrenreich, whether this relationship is exemplified in the mythology of these continents, is of great significance. As Ehrenreich points out, the arrow-chain by which heroes ascend to an upper world in British Columbian mythology recurs among the Eastern Tupi, who are separated from their northern kinsmen by fifty degrees of latitude; and the blocking of a passage-way to another world by a person of generous proportions is equally prominent in the Warrau, Caraya, and Mandan cosmogonies.[3] But, striking as are these resemblances, they are as yet suggestive rather than convincing, and it must devolve on future investigators to settle the problem of a pristine community of cosmogonic tales in the Western Hemisphere.

Psychologically, it is perhaps worth while to emphasize the essentially unphilosophical character of the South American cosmogonies. A certain degree of systematization is apparent in the Mexican, Mayan, and Peruvian myths; but the bulk of even these cosmogonic narratives is akin in spirit and substance to the folk-tales current among their less civilized congeners in both Americas. The Quiché myth is probably fuller of abstract conceptions than any other Central and South American creation-story, yet these metaphysical portions of the *Popol Vuh* are relatively insignificant compared with the elaborate tale of the twin heroes, which has numerous parallels on both continents. Contrary to the traditional theory that folk-tales are degenerate myths, it might, therefore, be plausibly contended that myths are merely *Märchen* with a speculative gloss, or secondarily invested with a religious significance. This view, however, which has been urged by the present writer,[1] still awaits intensive discussion.

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[1] Lucien Adam, 'Le Parler des Caingangs,' *Congrès Internat. des Americanistes*, XIIe Session (Paris, 1902), 317–330.

[2] P. Ehrenreich, *Die Mythen u. Legenden der südamer. Urvölker und ihre Beziehungen zu denen Nordamerikas und der alten Welt* (Berlin, 1905), 30, 41, 49.

[1] O. Bürger, *Acht Lehr- und Wanderjahre in Chile* (Leipzig, 1909), 88.

[2] R. Andree, *Flutsagen* (Brunswick, 1891).

[3] Ehrenreich, *op. cit.* 50, 32.

LITERATURE.—This is sufficiently indicated in the article.

ROBERT H. LOWIE.

COSMOGONY AND COSMOLOGY (Muhammadan).—The account in the Qur'ān of the creation of the universe is founded upon an imperfect version of the story in Genesis. In xli. 8 ff. it is written (Rodwell's tr.):

> 'Do ye indeed disbelieve in Him who in two days created the earth? . . . and He hath placed on the earth the firm mountains which tower above it, and He hath blessed it, and distributed its nourishments throughout it, for the cravings of all alike, in four days; then He applied Himself to the heaven, which was but smoke: and to it and to the earth He said: "Come ye, in obedience or against your will"; and they both said: "We come obedient." And He completed them as seven heavens in two days, and in each heaven made known its office; and He furnished the lower heaven with lights and guardian angels.' Other references are xv. 15 ff., xvi. 8 ff., xxxv. 12, etc.

The commentators Zamahshari and Baiḍāwī, whose remarks are abstracted in the notes to Sale's *Koran* (Lond. 1734, p. 389), explain that the 'smoke' or 'darkness' of the heaven proceeded from the waters under the throne of God (which was created before the heavens and the earth), and rose above the water; and, the water being dried up, the earth was formed out of it; and the heavens out of the smoke which had mounted aloft. It is added that the heavens were created on Thursday; the sun, moon, and stars on Friday, in the evening of which Adam was made. The guardian angels were appointed to ward off prying devils (Baiḍāwī, *ib.* 211). The Traditions add little to this vague material:

> 'God was; but nothing was before Him, and His imperial throne was upon water. After that God created the regions and the earth; and wrote everything on the tablet of His own memory.' 'The angels were created from a bright gem, and the *jinn* from fire without smoke, and Adam from clay.' 'When God created Adam in paradise . . . the devil came and took a look at him, and, when he saw him with a body, he knew that God had created a creation which could not guard itself from hunger' (*Mishkāt al-Maṣābīḥ*, tr. Matthews, Calcutta, 1810, xxiv. i. 1).

Orthodox Muslim imagination has elaborated a fantastic idea of the Creation out of these scanty materials, aided by suggestions from foreign sources (such as the seven spheres and seven climates), but without allowing notions of science or philosophy to trench upon revelation. Thus the Qur'ān (ii. 20, lxxviii. 6) states that the earth was 'spread out as a bed,' or 'as a carpet'; so it manifestly must be a flat surface. The Muhammadans interpret the sayings of their Prophet literally, and believe that there are seven heavens, one above the other, and seven earths, one beneath the other; and they lay down the distances between them, and the diameter of each, and the substance of which each is constructed, with much precision. (These valueless speculations and opinions may be read in some detail in Lane, *1001 Nights*, London, 1859, Introd., note 2.) One account pretends that, the seven superimposed earths being unstable, God created a series of supports beneath them: first He ordered an immense angel to go beneath and hold the earth (or rather the seven earths) on his shoulders; and beneath his feet, to support him, God created a rock of ruby, with 7000 perforations, from each of which poured a sea. But the rock stood upon nothing, so God created a huge bull called Kuyūta, with 4000 eyes, and an equal number of other features, to bear it up on his back and horns. And under the bull God made Behemoth (Bahamūt), the giant fish, to lie; beneath which was placed water, and under the water darkness, 'and the knowledge of mankind fails as to what is under the darkness' (al-Damīrī, Ibn-al-Wardī, etc., *ap.* Lane, *op. cit.*); but the general belief is that there lies Hell with its seven stages, just as Paradise is supposed to be in the seventh heaven or above it. Muslim philosophers naturally did not always subscribe to such opinions, but, as their philosophy was wholly borrowed, their ideas of cosmogony possess no original value.

LITERATURE.—This is given in the article.

STANLEY LANE-POOLE.

COSMOGONY (Polynesian). — Throughout Polynesia the creation of the world is assigned to Tangaloa, the god of heaven, who is thus named in Tonga and Samoa, while in Tahiti, Raiatea, the Hervey Islands, and elsewhere he is called Taaroa, in New Zealand Tangaroa, and in Hawaii Kanaloa. He dwells in the highest heaven, and is often believed to have the form of a bird, this being his aspect as the celestial wind-god. The sun is his left eye, and he is likewise often the god of the sea, the mirror and the earthly representative of the blue sky. His wife is an enormous rock named O-te-papa, by whom he became the parent of the gods, the planets, the sea, and the winds. The gods, in their turn, were the parents of mankind, although, according to other accounts, Tangaloa himself formed man of red earth. Besides O-te-papa, Tangaloa had other wives, by one of whom, Hina, at once his daughter and his wife (as in many other cosmogonic myths), some legends made him the parent of heaven, earth, sea, and numerous gods. After man he created beasts, fowls, and fishes. Still other creation-myths ascribe the creation of the sky, clouds, stars, winds, beasts, fishes, sea, and the like to Raitubu, 'the maker of heaven,' a sort of demiurge and the son of Tangaloa. The earth is also explained, especially in the western Society Islands, as the exterior of Tangaloa's body, while in Raiatea he was believed to live in a sort of mussel, throwing away the shells from time to time, and thus enlarging the world. The myth of the cosmic egg was not unknown in Polynesia. A legend current in Hawaii, the Society Islands, and Tahiti, made Tangaloa, in his aspect as a bird, a prisoner for long ages in a gigantic egg. He finally broke this place of confinement, however, and the two halves of the shell formed the heaven and the earth, while the smaller fragments became the islands. Another tradition makes the islands bits broken from the cosmic rock O-te-papa, as she was dragged by her husband through the sea, or else pieces broken off from the mainland by angry gods. The myth of the cosmic egg recurs in New Zealand, where mankind were believed to be produced from an egg laid on the waters by a gigantic bird.

Tangaloa's exertions at the creation of the world were so great that, according to some cosmogonic legends of Polynesia, the salt sweat which streamed from him formed the ocean. From this ocean Tangaloa attempted to fish the earth; but, just as land was appearing above the surface of the water, his line broke, and the potential continent was dashed into a mass of small islands. A similar legend of Tangaloa fishing up the earth was found in Samoa, though the inchoate condition of Polynesian cosmogony is again exemplified by the existence in this island of divergent myths on this subject. Two islands, Savaii and Upolu, were hurled from heaven by Tangaloa. He then sent his daughter, Turi or Tuli, to people this first land, and she, assuming the form of a snipe, settled down upon the islands, bearing with her a creeper which grew in the earth that formed beneath her feet. From the decaying leaves and tendrils of the creeper came worms, which Tuli pecked in two with her beak, thus forming human beings.

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[1] Lowie, 'The Test-Theme in North American Mythology,' *JAFL* xxi. (1908) 97-148, xxii. (1909) 431 ff.

Both heaven and earth were regarded as impersonal in Samoa, Tahiti, and Rarotonga, and as being so close together that men could not stand upright, but were forced to crawl on the ground. The two were separated, according to the Samoan and Rarotongan versions of the myth, by a man who pressed them apart. In Tahiti, on the other hand, Ru, the sea-god, raised the sky to its present elevation. In Raiatea, a monstrous cuttle-fish held the earth and the heaven together, but he was killed by the sun-god Maui, whereupon the sky rose up to heaven. On the shoulders or the back of this god the earth rests; and, when he moves, the earth quakes. He is also confused with Tangaloa as the deity who fished the earth from the sea, while in other legends he takes the place of Tangaloa's daughter, Tuli, assumes the shape of a bird, and forms man by dividing a worm in two. In Tonga the earthquake is caused by the subterranean god Mafuike, who carries Samoa in his left arm. This same phenomenon is elsewhere ascribed to other gods, such as Maui himself in Tahiti.

Throughout this cycle of Polynesian cosmogonic myth one fact, not without parallel in other religions, is clear. O-te-papa, the primal barren earth or rock, represents the female principle, which is fructified and made to give birth to all things living, by the fertilizing rain which falls from the superincumbent male Tangaloa, the sky. In New Zealand the myth of the separation of earth and sky undergoes a curious modification.

Originally Rangi, the sky, who takes the place of the general Polynesian Tangaloa, who becomes a mere sea-god in this island, was closely united in nuptial embrace with Papa, the earth. From this union sprang countless children, but they were forced to dwell in utter darkness. In discomfort at this gloomy existence, the offspring of the pair sought to separate their parents. Tu-matauenga, the most cruel of all, urged that Rangi and Papa be killed; but Tane-mahuta, the god of trees, urged that the pair be parted. All assented, excepting Tawhiri-matea, the god of winds. The gods in turn now endeavoured to break the embrace of their parents—Ronga-ma-tane, the god of cultivated plants, Haumia-tikitiki, the god of wild plants, Tangaloa, the god of fishes and reptiles, and Tu-matauenga, the god of heroes. Finally, Tane-mahuta pressed his back against his mother and his feet against his father, thus parting Rangi from Papa. Tawhiri-matea, however, was angry with his brothers and followed his father, so that the wind and his children, the storm winds, still make war on the forests and the sea, and only man, the offspring of the terrible Tu-matauenga, is able to resist them. Strife also arose among the gods who had remained on earth, especially between the god of the sea and the god of the forest, since the latter gave Tu-matauenga wood for fishing-implements, wherefore the sea is angry with men and seeks to devour them. On the other hand, Ma-tauenga and his offspring, mankind, were able to conquer all the gods, with the exception of the wind which blows from heaven.

This version, although more detailed than any other Polynesian creation-myth, is obviously of much later origin than the legends current elsewhere in this part of Oceania.

LITERATURE.—Waitz-Gerland, *Anthropol. der Naturvölker* (Leipzig, 1872), vi. 232–239, 245–254; A. Bastian, *Die heilige Sage der Polynesier* (Leipzig, 1881). LOUIS H. GRAY.

COSMOGONY AND COSMOLOGY (Roman).

—The only Roman cosmogonies which go beyond mere single statements about the origin of the world are found in the works of later writers. They belong, therefore, to a period when Roman culture was permeated with foreign, and especially Greek, elements. On the other hand, we meet with various cosmogonical ideas which may be referred without hesitation to the earliest Roman times. We shall, therefore, give some account of these, and afterwards inquire how far they enter into, and give a genuinely Roman character to, the cosmogonies of a later age.

1. Early cosmogonical ideas.—Nearly all the cosmogonical ideas of the Romans were connected with the god Janus, who is admittedly one of the very oldest Roman divinities (cf. *e.g.* Herodian, i. 16: *θεὸς ἀρχαιότατος τῆς Ἰταλίας ἐπιχώριος*). As F. Lukas (see Literature) puts it, he is related to Juppiter as the First is to the Highest. Accordingly, in the public worship of the Romans the first sacrifice was paid to Janus (Mart. *Epig.* x. 28. 2). As first in time he was naturally also regarded as the cause of all that followed after. So Festus, explaining why the first sacrifice was paid to Janus, adds: 'Jano primum fuisse supplicatum, quasi parenti, a quo rerum omnium factum putabant principium.' M. Val. Messala, the augur (50 B.C.), describes his cosmogonical character more fully: 'qui cuncta fingit eademque regit, aquae terraeque vim ac naturam gravem atque pronam in profundum dilabentem, ignis atque animae levem, in immensum in sublime fugientem, copulavit circumdato coelo,' etc. (Macr. *Sat.* i. 9). Martial (*Epig.* x. 28. 1) describes him as 'sator mundi.' As the author of organic life, he is described in a fragment of the Saliaric Hymn (Varro, *Ling. Lat.* 7, 26) as 'duonus cerus'—where 'duonus' = *bonus*, 'good,' and 'cerus' (or 'kerus,' connected with *creo*, Skr. *kar*, 'to make') means a creative spirit, and, as it is an older word for Genius, the creative deity of the family in particular (Lukas, p. 200). As the author of life, he was also invoked as Consivius (*a conserendo*, Macr. *Sat.* i. 9, 16).

It is clear, then, that Janus was a cosmogonic personage. But it is difficult to say what cosmic principle, if any, was originally represented by him. Here everything depends on the meaning of the name, about which opinions have varied greatly both in ancient and in modern times (cf. Roscher, *s.v.* 'Janus'). Of the ancient explanations, that which regarded Janus as a personification of the Sun (Nigid. Fig. in Macr. *Sat.* i. 9, 11, etc.) has been most generally adopted by recent writers, amongst whom we include those who think of the sun's light rather than the sun itself (cf. Roscher, *l.c.*; Lukas, p. 202, etc.). According to another and very similar ancient view, Janus represented the Heaven (Macr. *Sat.* i. 9, 11), and, further, we are informed by Varro that in this character he occupied a place of the highest honour among the Etruscans—*αὐτὸν παρὰ Θούσκοις οὐρανὸν λέγεσθαι καὶ ἔφορον πάσης πράξεως* (*ap.* J. Lydus, *De mens.* iv. 2). Now, there is a remarkable fragment of an Etruscan cosmogony in the oracle of Vegoia or Vegone (see *Gromat. Vet.* 350; cf. Müller-Deecke, *Die Etrusk.* ii. 30 ff., 165, 299, 312; Preller, *Röm. Mythol.* i. 172, 256), which begins: 'Scias mare ex aethere remotum. Cum autem Juppiter terram Etruriae sibi vindicavit,' etc. Here we have a Latin translation, probably of the 2nd or 3rd cent. B.C., of an ancient Etruscan oracle, which, according to Preller, represents ancient Italian popular belief. The oracle, which relates to the protection of landed property in Etruria, is thus prefaced by a priestly doctrine about the origin of the world: the Sea arose by separation out of primal Æther—and the same must also have been asserted in the original oracle about the Earth (Preller, i. 256 n.). But Æther is practically the same as Heaven (see art. ÆTHER in vol. i.; Roscher, *s.v.* 'Aither'), with which we are told that Janus was identified in Etruria, and it includes the notion of Light (see 'Greek' art. above; and Lukas, p. 208—'Aether = Licht des Himmels'), which others regarded as the essential attribute of Janus. Hence it is reasonable to suppose that the early Italians not only regarded Janus as creator of the world, but pictured his creative activity after the manner described in the Etruscan oracle (Lukas, *loc. cit.*; Preller, p. 172).

2. Literary cosmogonies.—We are now in a position to inquire how far the cosmogonies of the later poets can be regarded as an independent product of Roman thought. We may fairly ascribe this character to any cosmogony which is based on the ideas already described. Franz Lukas has tried to show that this is the case with regard to the theory sketched by Ovid in the *Metam.* i. 5 ff., and *Fasti*, i. 103 ff. Ovid's is also, so far as we know, the only complete cosmogony whose dependence on primitive Roman ideas can be at all confidently asserted. To it, therefore, we shall now turn.

In the *Metamorphoses* we read that the world was preceded by Chaos. This was not, however, the empty void of the Hesiodic cosmogony, but the primary substance with which space was filled. It was a formless and confused mass—'rudis indigestaque moles'—the parts of which all struggled with one another, by reason of opposite qualities of moist and dry, hot and cold, etc. The process by which the world arose out of Chaos is attributed to what Ovid calls 'Deus et melior natura.' The 'melior natura' is evidently the material force by means of which order is brought out of chaos. Did it reside in matter from the first? The passage is not clear on this point (cf. Lukas, p. 208). But at least it implies that at some point of time the Deity either infused a higher nature into the primal substance, or gave effect to a higher power latent within it. Forthwith the diverse elements separated from each other, and united with their like, and the wholes thus formed took up a relative position in accordance with their several natures. Fire, the lightest element, flashed forth from the topmost arch of heaven; beneath it was the Air, and lower still the Earth, while Water, encircling the latter ('circumfluus humor'), still further compressed its solid mass. Next, the Deity moulded the Earth, which must here be taken as including the liquid element, into a sphere, and formed it in all its parts—seas, fountains, lakes, marshes, and rivers, plains, valleys, hills, and zones. He likewise completed the severance of the Æther from the Air, the region of cloud and storm. Then the constellations, erstwhile hidden in Chaos, glowed in the firmament. Life in all its grades appeared. The stars, as Divine Beings, dwelt in heaven; fish, bird, and beast tenanted their respective homes, and lastly Man was born.

The cosmogony of the *Fasti* is similar, but with some notable differences. There is nothing here about the 'Deus' or the 'melior natura.' The former is absent because the poet is concerned with the evolution of the four elements rather than with the formation of the world; and the latter, because here, whatever may be the case in the *Metam.*, the evolution of the primary matter is regarded as due to its own indwelling force. Another difference lies in the fact that the primary matter, which is again called Chaos, is here expressly identified with the god Janus. This brings us directly to the question whether the Ovidian cosmogony is to be regarded as essentially Roman. Now, the mere fact that Ovid equates Chaos with Janus counts for little, as the connexion of the names depends on a fantastic etymology (cf. Roscher, *s.v.* 'Janus,' pp. 35, 43). What is important is that the cosmogonical ideas contained in the *Fasti* are expressly associated with the old Roman god. The ground-thought of the passage is the separation of the elements from primal matter in obedience to the law of its own nature. The same thought is present in the *Metam.*, though there the evolutionary process is ascribed in part to a 'melior natura' working along with a separate Divine agency. We have seen, further, that the separation of the elements from the primal Æther (and that apparently without reference to an external agency) was an ancient Etruscan doctrine, and that in all probability Æther and Janus were equivalent terms. Still the connexion of the Etruscan doctrine with Janus rested on conjectural etymological grounds. But the fact that Ovid expressly associates the same ideas with Janus is strong evidence both that the former inference was correct, and that we have here a genuine Roman cosmogony. At the same time it is probable that in the working out of the fundamental idea Ovid was more or less indebted to Greek thought (cf Lukas, p. 209).

The idea of a force inherent in primary matter, which forms the basis of Ovid's cosmogony, appears also in the representations which other poets give of Nature in general. As examples of these, Lukas refers to Virg. *Georg.* ii. 336 ff., and *Æn.* vi. 724 ff. In the former passage the poet ascribes the origin of the world to the same force which at each new spring-time clothes it with fresh life:

> 'Non alios prima crescentis origine mundi
> Illuxisse dies; aliumve habuisse tenorem
> Crediderim. Ver illud erat; ver magnus agebat
> Orbis, et hibernis parcebant flatibus Euri,
> Quum primae lucem pecudes hausere, virûmque
> Ferrea progenies duris caput extulit arvis,
> Immissaeque ferae silvis et sidera coelo.'

In the second passage he speaks of the Soul which animates the body of the world, which streams through every member, and from which every living creature sprang. In both these passages the poet, no doubt, borrowed freely from other writers, and especially from Lucretius (see Conington's *Virg.*). But he gives expression to the thought which we have seen reason to believe was familiar to the Romans from the earliest time—that, namely, of the evolutionary capacity of matter.

LITERATURE.—Roscher (see COSMOGONY AND COSMOLOGY [Gr.], 'Literature'), where readers will find a full account and criticism of views relating to Janus; F. Lukas, *Kosm.* (see *ib.*); *Gromat. Vet.*, ex rec. C. Lachmann, 2 vols., Berlin, 1848–57; K. O. Müller, *Die Etrusker*, new ed. by W. Deecke, 2 vols., Stuttgart, 1877; L. Preller, *Röm. Mythol.*, 2 vols., 3rd ed. by H. Jordan, Berlin, 1881–3.

L. F. BURNS.

COSMOGONY AND COSMOLOGY (Teutonic).—The word 'Teutonic,' as we take it, is in its way descriptive of all peoples of Germanic origin, such as the Scandinavian, German, Dutch, and Anglo-Saxon. The word 'Teuton' first appears in the 4th cent. B.C., and is then applied to the Germanic tribe living around the mouth of the river Elbe. Modern ethnologists join in the common division of the Teutonic race, as yet existing, into three branches: (1) the Scandinavian, (2) the Low German, and (3) the High German. The Scandinavian branch includes the Icelanders, the Norwegians, the Swedes, and the Danes; the Low German branch includes the Frisians, the Dutch, the Low or Northern Germans, the Flemings, and the Anglo-Saxons; the High Germans are the Germans of Middle and Upper Germany, of Switzerland, and of Austria. For convenience' sake it is just as well, however, to speak only of the Scandinavian and the German branches, since this is both common and satisfactory.[1]

As Teutons, these two great branches had a common origin and a common faith in the supernatural. Thus their myths are also essentially identical, though the Scandinavian is much richer than the German. This is especially the case with reference to their cosmogony, for which we have to depend almost entirely upon Scandinavian sources. But whether the common stock of Teutonic belief is faithfully preserved in the Northern myths is a matter of much dispute. In reference to this problem, two different schools have developed—the conservative, and the critical—to which must be added a number of more or less independent investigators of a mediating type, leaning towards the one side or the other, though, of course, having much in common with both (cf. Literature at end of art.).

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[1] Some divide the entire Teutonic race into the Eastern, Western, and Northern branches. Of these the Eastern, which once consisted of Ostrogoths, Visigoths, and Moesogoths, is now extinct; and the other two divisions are identical with the German and the Scandinavian branches.

It is, however, safe to say that most modern scholars hold that Christianity in its earlier forms has, in a marked degree, influenced the old Norse poets, their songs, and their sagas, and consequently has made it very difficult to ascertain which elements in this mythology are genuinely Teutonic. The important poem *Völuspá* especially is viewed with much suspicion, as may be well noted, for instance, in E. H. Meyer's edition of it (*Völuspá, eine Untersuchung*, Berlin, 1889), in which he arrives at the conclusion that this great cosmogonic source is a mere Christian poem in a heathen disguise, composed in the 12th cent. by Saemund the Learned. Several later authors do not agree with this view, but rather consider it erroneous, though they allow that the great song has suffered from foreign influences, probably mostly Christian. Furthermore, it is generally held that the author of this poem, as well as of all the songs of the poetic Edda, is unknown, though the various lays were all collected in the 13th century.

From the German sources little can be learnt concerning the cosmogony of the old Teutons. Indeed, they tell us next to nothing of any of the beginnings, and they have no prophecies with reference to the future, while there is much of both kinds in the Scandinavian myths. Traces, indeed, have been found in Germany of a mythological belief similar to the Scandinavian, and even identical with it. Thus in Waitz's 'Merseburg MS' (probably from the 10th cent.) there are indications of a Balder as an originally Teutonic character; Odin is mentioned and Frija his wife, as is also a class of beings named Idisi, who perform the same services as the Valkyries of the Northern myths. These names occur in certain magic formulæ of undoubted heathen character, which are contained in the manuscript just mentioned. A similar source is the so-called 'Wessobrunn Prayer' from the 8th cent., in which, according to Müllenhoff and others, there are traces also of an original Teutonic cosmogony with the concept of a large void and yawning abyss, etc. But this may have been derived from Christian influences, as Wackernagel contends. Another source is found in Tacitus' works, in which he incidentally or otherwise touches upon the belief of the Teutons (cf. esp. *An.* xiii. 57; *Germ.* ii.). From these notices it seems that the old Teutons considered fire and water, and also salt, as original elements. Similar notions are to be found in Snorri Sturlason's *Gylfaginning*, chs. 5 and 6 (cf. below, p. 178, on the cow Audhumla licking salty stones in Ginnungagap). Finally, there exists at Mainz a letter of Daniel of Winchester (*Ep.* 15, Mon. Moguntina Coll.) to Boniface, the missionary to the Germans, written *c.* 720, which to some extent describes the cultus and beliefs of the ancient heathen. In it there are some references to the origin of the world and of the gods themselves.

These are really the only remains which we possess from the German branch of the Teutons as to the beginning of the world, except that in the idiom of the language itself and in certain remaining forms of magic there are some recollections of ideas once entertained by the original Teutons. But from all these remnants brought together there cannot be constructed anything like a Teutonic cosmogony. For such we have, as already indicated, to turn to the North.

The two main cosmogonic sources of the Scandinavian branch of the Teutons are Snorri Sturlason's *Gylfaginning* and the *Völuspá*. The former is, however, of less value as being very much a construction from the period of its composition, so that we shall have to draw mainly from the latter. According to it, the origin of the world, with its resultants, was as follows:

'There was, in times of old, where Ymir dwelt,
nor land nor sea, nor gelid waves;
earth existed not, nor heaven above;
there was a chaotic chasm,
and verdure nowhere.

Before Bör's sons raised up heaven's vault,
they who the noble Midhgardh shaped,
the sun shone from the south
on the structure's rocks;
. . . . .
there was the earth begrown
with green herbage.

The sun from the south, the moon's companion,
her right hand cast round the heavenly horses;
the sun knew not where it had a dwelling;
the moon knew not what power it possessed;
the stars knew not where they had station.

The Aesir met on Idha's plain;
they altar-steads and temples high constructed;
their strength they proved, all things tried,
furnaces established,
precious things forged,
formed tongs, and fabricated tools.

At tables played at home; joyous they were;
to them was not the want of gold,
until there came Thurs-maidens three
all powerful,
from Jötunheim.

Then went all the powers to their judgment-seats,
the all-holy gods, and thereon held council
who should the dwarfs' race create,
from the sea-giant's blood
and livid bones.

Then was Môtsognir created,
greatest of all the dwarfs,
and Durin second;
there in man's likeness
they created many dwarfs from earth,
as Durin said.'

Then follows a list of some fifty-five dwarfs, which the high gods created to be remembered as long as mortal men exist on earth. And, as in Genesis and most other cosmogonies, so in the Edda there is a story of a double creation, for now we are told that

'There came three mighty and benevolent Aesir
to the world from their assembly.
They found on earth nearly powerless
Ask and Embla,
void of destiny.

Spirit they possessed not, sense they had not,
nor blood, nor motive powers, nor goodly colour.
Spirit gave Odin, sense gave Hoenir,
blood gave Lódhur,
and goodly colour.'

According to this description of the Creation, we find that before either heaven or earth was made there existed a chaotic state with a deep yawning chasm, later called Ginnungagap ('yawning gap'). This may be considered as the *terminus a quo* for the Teutonic idea of creation. In the *Völuspá* the story of the making of the world is given as here quoted, but it would hardly be fair to make this the only source of the cosmogony of the Teutons, as long as there is another, which proceeds to a much more detailed description. This is found in the prose Edda of Snorri Sturlason, and under the heading *Gylfaginning*, as before mentioned, but it is rather too extensive to quote. In the remaining literature of the Eddas there are also a few other references to the creation of the world and the origin of things, and these, together with the two main sources just mentioned, offer the following composite view of the Teutonic cosmogony.

Ginnungagap was limited to the north by the cold and frosty region called Niflheim, and to the south by Múspellsheim, with its fire and burning heat. In Ginnungagap itself the cold from Niflheim, carried along by the twelve poisonous rivers, the Elivágar from the fountain Hvergelmir in the lowest deeps of the abyss, met the heat from Múspellsheim, resulting in the first development of life, which took form in a being similar to a man and called Ymir, who was of immense size and became the progenitor of the giants.

Along with Ymir there arose from the same union of cold and heat a monstrous cow called Audhumla—an original conception, it seems, and as such the fructifying power. With her milk she sustained Ymir, while she herself fed from the salty stones in Ginnungagap, which she licked. From her contact with the salty stones there grew forth another being called Buri, who united with Ymir's daughter Bestla, a sister of Mimir, the water-demon. By Bestla, Buri had a son Bör, who became the father of Odin, Vili, and Vé. Of these Odin was the greatest, and as such he is sometimes called the father of the gods. Odin and his brethren finally killed Ymir, drowning in his own blood his entire progeny, the giants, with the exception of Bergelmir, who escaped, and, in his turn, now became the father of a new race of giants. With Ymir's body the gods filled the awful and dark abyss, Ginnungagap, and there made the world. From Ymir's flesh they formed the earth; from his blood the rivers, lakes, and seas; from his teeth and smaller bones they made the rocks and pebbles; while from the larger bones they formed the mountains. With his eyebrows they surrounded this new-made earth, and called it Midhgardh, outside of which there was the ocean —the whole being now overtopped by heaven, which was made out of Ymir's skull and illuminated with sparks from Múspellsheim itself. From the giant's brains the gods made the flying clouds and the mists.

The next creative act of the Aesir, or high gods, was the making of man. Originally he was made into a pair from the mystic trees Ask and Embla, which the sons of Bör found on the seacoast, when one day they were walking there. To these new-made beings Odin himself gave life, Hoenir understanding, and Lódhur the blood and the lower senses, placing all this in a most beautiful form. Of man in his original state we noted the following from the *Völuspá*: 'Spirit they possessed not, sense they had not, nor blood, nor motive powers, nor goodly colour; spirit gave Odin, sense gave Hoenir, blood gave Lódhur, and goodly colour.' It should be remarked that Hoenir and Lódhur are identical with Vé and Vili.

As we have seen, the dwarfs made another class of beings with which men always had to contend, and who probably represent a later stage in the forming of the Teutonic myths, caused, perhaps, by the resistance of an earlier race to the coming invaders. These dwarfs constituted a hostile power of great number, and are mentioned at many places in the Eddas and in the earlier Icelandic literature.

From the account of the creation of man we have seen that trees have had a prominent place in the Teutonic mind from the very beginning. Most important of these trees was the great ash Yggdrasil, which was the life-tree, the tree of cosmic unity and of all existence, spreading its branches out over the whole world, and reaching with its top even to the abode of the gods, while sending its roots under the world in order to support it. Of these roots, one goes to Niflheim, where it is constantly gnawed by the subterranean serpent Nídhögg in order to destroy the tree and the world; the second root stretches to the region of the giants, where it enters the spring of Mimir, the great ruler of the nether world and the keeper of the tree itself. From this spring even Odin has to draw his wisdom. The third root reaches to the home of the gods themselves, from under which the sacred spring of Urd has its place, and whence the Norns, the sole arbiters of all human destinies, constantly scoop water to pour over the great ash, so as not to allow it to wither. But, notwithstanding all this care, there will come a time when the great tree will lose some of its leaves and branches, and then it will begin to groan. This will be the signal of Ragnarök, or the end of the present condition of the world. Now the final struggle between the gods and the giants, between good and evil, shall be fought, when evil will be for ever vanquished. After this the Yggdrasil will flourish as never before, and there shall be a new age, with a new earth, in which the hosts of the righteous shall dwell for ever in perfect bliss.

This is as nearly as possible an objective statement of the views of the early Teutons as regards the beginning of the world. But no one can tell whether these beliefs were not preceded by others of a more rude and simple character. This view seems probable to the present writer. But, as the examination of this hypothesis would lead us into the altogether uncertain, we shall have to rest satisfied with the matter we have in hand, and congratulate ourselves that we have so much. Perhaps its philosophy may be summed up as follows. The early Teutons believed in a pre-existing substance in a completely chaotic state, out of which, through the incompatible forces of cold and heat, there arose the primitive forms of life, endowed from the beginning with reproductive power. In this early state only the most monstrous beings were produced—beings like Ymir and his race, the giants. In the generating forces of the cow Audhumla, as well as in the two trees Ask and Embla, we meet new factors of organization, forming gods and men, which have a very near relationship. These are not generated outside of Nature, but within it, and are thus dependent upon it. Hence it follows that even the gods themselves are temporal *a parte ante*, and not eternal. Undoubtedly this was the early idea of the Teutonic race as regards the superior powers in which it believed. Furthermore, the gods are not real creators, but organizers forming the desirable objects out of pre-existing elements, which may have been considered as eternal. The gods may be said to have been generated from Nature, while man is the work of these gods through Nature, and they all in common have to conquer their baser instincts in order to remain free from trouble and curse. It is along these lines that the world itself, considered as a whole, will proceed until, after a final struggle, the new world, with its new conditions of happiness and bliss, shall be ushered in.

Such is the story of the cosmogony of the Teutons contained in some of the most sublime poetry of ancient literature. Few will doubt that it has, at least in a measure, been influenced by early mediæval Christianity, as Meyer and Bugge, together with many others, have proved; but none will deny that in these Icelandic lays we possess the essential strata of genuine Teutonic belief.

LITERATURE.—The *Poetic* or *Sæmundar Edda*, crit. ed. by S. Bugge, Christiania, 1867, Eng. tr. by Benjamin Thorpe, London, 1866, literal tr. in Vigfusson's *Corpus Poeticum Boreale*, Oxford, 1883; the *Snorra Edda*, ed. Copenhagen, 1848–87, partial Eng. tr. by I. A. Blackwell, in *Northern Antiquities*, London, 1847, and by R. B. Anderson, Chicago, 1880; K. Blind, 'The Teutonic Tree of Existence,' *Frazer's Magazine*, 1887; P. D. Chantepie

de la Saussaye, *Rel. of the Teutons*, tr. Boston and London, 1902; S. Bugge, *Studier over de nordiske Gude- og Heltesagns Oprindelse*, i.–ii., Christiania, 1881–1889, Germ. tr. by O. Brenner, Munich, 1889 (Eng. tr. of vol. ii. under the title *The Home of the Eddic Poems*, London, 1899); J. Darmesteter, 'Les Cosmogonies aryennes,' in *Essais orientaux*, Paris, 1883; C. F. Keary, *Outlines of Primitive Belief*, London, 1882; A. V. Rydberg, *Fädernas gudasaga*^{2}, Stockholm, 1898, also *Germanisk Mythologi*, i.–ii., Stockholm, 1886–1889 (Eng. tr. of vol. ii. by R. B. Anderson for the Norroena Library, London, 1906 ff.); W. Golther, *German. Mythologie*, Leipzig, 1895, pp. 501–543; J. Grimm, *Deutsche Mythologie*^{4}, Berlin, 1876; E. H. Meyer, *Völuspá*, Berlin, 1889 (this work has a good list of references to sources, literature, and commentaries), also *Die eddische Kosmogonie*, Freib. 1891; K. Müllenhoff, *Deutsche Altertumskunde*, vol. v. (by H. Gering, 'Die Edda,' Berlin, 1892); E. Mogk, *German. Mythologie*, Leipzig, 1906; H. Paul, *Grundriss d. germ Phil.* iii.^{2}, Strassburg, 1896–1900; H. Petersen, *Om nordboernes gudedyrkelse*, Copenhagen, 1876; K. Simrock, *Handbuch d. deutschen Mythologie*^{6}, Bonn, 1887, §§ 6–53; F. Kauffmann, *Deutsche Mythologie*^{3}, Leipzig, 1898; Paul Herrmann, *Nordische Mythologie*, Leipzig, 1903; H. Schück, 'Svensk gudatro under hednatiden,' *Finsk Tidskrift*, 1898; cf. also T. Möbius, *Catalogus Librorum*, Leipzig, 1856, also his *Verzeichniss*, Leipzig, 1880.

Darmesteter, Rydberg, and Grimm belong to the 'conservative' school, while Mogk and Meyer are very critical with reference to the contents in much of the Icelandic literature, particularly in *Völuspá* and the *Snorra Edda*; Golther occupies a sort of intermediate ground; Müllenhoff is generally considered a very safe guide and a good authority.

S. G. YOUNGERT.

COUNCILS AND SYNODS.

Buddhist (L. DE LA VALLÉE POUSSIN), p. 179.
Christian—
Early (D. STONE), p. 185.
Christian—
Mediæval (D. S. SCHAFF), p. 193.
Modern (H. THURSTON), p. 197.

COUNCILS (Buddhist).—

Before giving a short survey of the traditions relative to the Buddhist Councils, it seems advisable to state what these Councils were. While it is impossible to accept the Buddhist opinion, which views them as ecumenical assemblies after the Nicene type, it is at the same time necessary to explain how Buddhist monastic life, without the help of such solemn assemblies, nevertheless resulted in a sort of 'catholicism,' and secured the redaction and the compilation of Canons of scriptures very like one another. The problem of the origin and character of the early sects cannot be evaded, for sectarianism is as old as catholicism in the Buddhist world; and Councils are said to have been held by the 'orthodox' to impugn sectarianism, and by the 'heterodox' to define their own peculiar tenets. As the history of the Canons and of the Sects will be dealt with elsewhere, we shall say here only what is necessary to avoid misleading ideas about the Councils, and to justify our half-conservative, half-critical position.

I. *COUNCILS, CANONS, AND SECTS.*—The professed dogma of the Buddhists of the post-canonic ages is that Councils were solemn synods of Saints, where *quasi*-omniscient and sinless old men (*arhats*, *sthaviras*) gathered in order to rehearse, to 'chant together' (*saṅgīti*), the Word of Buddha (First Council), or to re-state it against the heretical views of innovators (Second and Third Councils), or to approve the addition of new treatises to the sacred lore, or to give authoritativeness to some theory of exegesis (Third Council and Kaniṣka's Council).

It is hardly necessary to point out that, as regards the First Council, the ecclesiastical dogma is untenable. No European would admit the 'authenticity' of the whole Pāli scriptures; and —without troubling to refer to a number of specious arguments—in presence of such facts as are adduced by Rhys Davids (*Buddhist India*, London, 1903, p. 176) or R. O. Franke ('Buddhist Councils' in *JPTS*, 1908, p. 8), the relative lateness of a great or the greater part of the *Nikāyas* themselves is evident (see below, on the later Councils). But it is safe to believe with Kern, whose critical methods are by no means uncautious, that there have been 'synods' ('Qu'il y ait eu des synodes, personne ne le nie' [*Geschiedenis*, ii. 265]). Upaniṣads as well as Suttantas furnish many evidences of the habit of discussing doctrinal matters.[1] We shall venture to add (1) that Councils were sometimes legal sessions, of the type approved of in the Pāli *Vinaya*. held by the parochial or diocesan (or even polydiocesan) clergy, *i.e.* a *saṅgha*, in order to inquire into accusations brought against a monk or group of monks (First Council, ordeal of Ānanda [if it be historical], Second Council, on the ten extra-allowances of the monks of Vaiśālī); (2) that heretical views, no less than extra-legal practices, may have been a matter of scandal, of inquiry, of doctrinal appreciation by the *soi-disant* supporters of tradition (Council on the Five Points of Mahādeva?)—there was on some occasions at least more or less formal 'consensus' of the contending parties; (3) that, possibly—we dare not say probably, for no human being knows anything about it, and 'probably' would be misleading where no appreciation of probability is possible—immediately after the death of the Master, some of his disciples, headed by Upāli or Ānanda or Kāśyapa, tried to ascertain at least a list of his authentic sermons and teachings; they agreed, let us say, on the technical 'phrases' which are the oldest form of the *Prātimokṣa* (cf. *Mahāvyutpatti*, § 256 ff.), on the wording of the Benares sermon, etc.; (4) that kings of old concerned themselves with ecclesiastical affairs, as did kings of later times[1]—synods and doctrinal disputations, usual in the Middle Ages, as we are told in many sources,[2] may sometimes have acquired special importance, owing to royal intervention (Aśoka, Kaniṣka?); (5) that some monasteries (and in early times there were huge monasteries) were like permanent councils. Their 'living libraries' became Canons; for the canonic shape which the Word of Buddha (*buddhapravachana*) received at last, when Word became Scripture, had been for a very long time foreshadowed by the oral and mnemonic distribution of the Word into several Baskets (*Piṭakas*) and Collections (*Nikāyas*).[3]

Real synods, regional or local, would have furnished Buddhists with the idea of primitive and catholic Councils, if the immemorial custom of conversing on the Law had not early evolved this very idea, and if the sectarian spirit had not given to it a special importance: '*Our* Scriptures are the Word of Buddha, for they have been authenticated by sinless and divine-eyed witnesses.'

But, while acknowledging the possibility (even the probability) of synods, we are at no loss to point out more certain and farther reaching causes of the facts to be explained, viz. the formation of the body of the Scriptures, the general (if not strict) 'consensus' of the sects of the Hīnayāna as concerns Buddha's teaching, and, conversely, the splitting of the Order into sects.

If one excepts the division of the clergy named *āraṇyakas*, 'forest men,' or *pratyekabuddhas*, 'those who leave the world to live as the saints of old' (*ṛṣipravrajyā* [see Poussin, *Bouddhisme*, 1909, p. 355, and art. TANTRAS]), Buddhist monks have never been hermits, 'rhinoceros-like' solitaries. A novitiate so-called, and often prolonged apprenticeship, study, and service at the feet of the preceptor, fortnightly confession, cœnobitic life, and prolonged living together during the rainy season

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[1] See, for instance, *Digha*, i. 173; Rhys Davids, *Dialogues of the Buddha*, i., Oxford, 1899, p. 244, n. 2.

[1] We may cite Aśoka's Bhābrā Edict and Pillar inscription at Sārnāth (V. A. Smith, *Early History of India*^{2}, Oxford, 1908, p. 150); also (possibly) his Edict on the Quinquennial Assembly (Fourth Rock Edict [V. A. Smith, *Aśoka*, Oxford, 1901, p. 116; Kern, *Manual*, 101]); on the assemblies convoked by Harsa, see V. A. Smith, *Early History*, p. 322; Kern, *loc. cit.*, and *Geschiedenis*, ii. 220.

[2] For instance, Tāranātha (*Geschichte des Buddhismus in Indien*, tr. Schiefner, 1869), Hiuen Tsiang (*Buddhist Records of the Western World*, tr. Beal, 1884).

[3] On the oral transmission of the *Vinayas*, see Fa-hien, xxxvi.